FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Ag Industries Tackle Food 'Scare' Problems

By FRED E. TUNKS
Feedstuffs Staff

LAFAYETTE, IND. — The speaker behind the rostrum fingered a small card handed to him by a speakers' table companion. Then he read aloud: "Fight Cancer—Avoid Food."

The audience's reaction agreed with the tone in which Dr. Herrell F. DeGraff, Babcock professor of food economics, Cornell University, read these words. A humorous and ridiculous proclamation, yes, but a strong hint of what many segments of the food industry—including feed and feed additive manufacturers—are up against because of agricultural chemical regulation "by press conference" and "judgment by decree, rather than as a result of scientific evidence" and because of an atmosphere of "food fads instead of food facts" being created for the consumer.

Dr. DeGraff was one of 18 highly regarded speakers who appeared before the assembly of the 10th annual National Institute of Animal Agriculture this week (April 4-5) in the Memorial Union Building on the Purdue University campus to project the problems spotlighted by the "cranberry and caponette incidents" and to help agricultural leaders develop ideas which can be used to successfully deal with these problems.

The theme of the conference was "Chemicals and Our Food Supply."

"New Dimensions"

Dr. DeGraff, the conference's final speaker, wrapped up much of the day and a half of discussion with this outline of "three major issues" which animal agriculture must face as "new dimensions of the food business."

"1. The wholesomeness of our food. It must be above suspicion.

"2. Proper use of the many, many chemicals used in food production and processing.

"3. Responsible administration of intelligent legislation."

An approach to solving some of the situations which have arisen from food chemical "scares" and Food and

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'Zero' Tolerance Panned

LAFAYETTE, IND. — The practicality, intelligence and reasonableness of "zero" tolerances for residues of agricultural chemicals and food additives were questioned by several speakers here early this week at the National Institute of Animal Agriculture. And it was said that it may be necessary to deal with "unrealistic" tolerance levels by developing nonchemical methods for doing some of the jobs currently accomplished with chemicals.

"Excessive" limitation of chemical residues, according to discussions on the Purdue University campus, is a product of the apparent fear—said to be unfounded in many instances—the consumer has for some chemicals, particularly those that have been branded as "cancer-causing."

Informal and formal exchanges of ideas on the tolerance topic pointed out the importance of these public "doubts," and the effect they have on

(Turn to TOLERANCES, page 7)

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Wanted: 'Sound Judgment, Facts'

LAFAYETTE, IND. — The viewpoints of industry on the "residue situation" which surrounds the use of chemicals in animal agriculture were expressed this week at the National Institute of Animal Agriculture by Dr. Thomas P. Carney, vice president, Eli Lilly & Co., Indianapolis, and Dr. J. L. Krider, vice president, Central Soya Co., Inc., and its feed division, McMillen Feed Mills, Fort Wayne.

They believe that actions relative to regulation of agricultural chemicals and food or feed additives should be based on scientific fact and sound judgment rather than on "faddism" and "inflexible decree."

Both speakers referred to developments which indicate that the food additives amendment to the Food, Drug and Cosmetic Act has curtailed agricultural research substantially. And both presented evidence which they believe adequately justifies the use of agricultural chemicals.

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Control Responsibility Aired

LAFAYETTE, IND.—The difficulty encountered in attempting to draw a line between the responsibility of the government and the responsibility of the food producer and the industries which serve him in assuring a safe food supply was demonstrated here at the National Institute of Animal Agriculture conference (April 4-5) by two government officials and an officer of a national farm group.

"One of the most serious questions facing farmers is whether the use of agricultural chemicals will be left largely in their hands or whether we are to have more government control and regulation of agricultural chemicals and drugs," said Roger Fleming, secretary, American Farm Bureau Federation.

"Safe use of agricultural chemicals and drugs and reasonable administration of necessary laws in this field are

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FEEDSTUFFS *Features This Week*

POTENTIATION—Results of tests involving use of soft phosphate as a potentiating agent for broad-spectrum antibiotics are reported on **page 20.**

PUNCH CARD MILL—The operation of a completely automatic electronic IBM punch card mill is described starting on **page 26.**

GRAIN BANK—Operations of a grain bank are discussed in a detailed article on **page 54.**

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Scientists Air Varied Views on Cancer Clause

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — Witnesses from an eminent cast of 13 scientists from the nutrition and medical field appeared this week before the House Interstate and Foreign Commerce Committee to discuss views on inclusion of a Delaney-type amendment in the proposed legislation which would provide for tolerance levels for use of colors added to foods and cosmetics.

One of the chief results seemed to be confusion resulting from division of opinion within the witness group and a lack of understanding in some cases on the part of House committee members as to what was being said in scientific discussions.

Some observers felt that this very situation — confusion, disagreement, lack of specific standards, etc.—would illustrate to committee members the difficulty in trying to legislate so specifically and rigidly, as is the case in the Delaney clause, on something which is not well enough known or understood.

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Purdue Organizes New Trace Level Research Institute

LAFAYETTE, IND. — Officials at Purdue University have announced the organization of a Trace Level Research Institute for Residues and Metabolites. The institute will initiate and coordinate basic research in pharmacology, toxicology and metabolism.

Recent legislation regulating the use of food and animal feed additives, pesticides, pharmaceuticals, cosmetics, growth regulators, and other materials has brought many problems, say Purdue officials. The institute

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Sun, Wind Pull Feed Men, Feeders Out of Deep Mud

By FRED TUNKS
Feedstuffs Staff

Drying winds and warmer temperatures are pulling upper midwestern feed manufacturers and dealers out of a troublesome season of deep mud and high water that had dumped handicaps on their backs.

For the first time in a week or more in much of states like Iowa, Nebraska, Missouri, Illinois and South Dakota bulk and bag feed trucks and mobile mills were beginning to grind their way to farms and feedlots, where hungry steers, hogs and sheep

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Radical Switch In U.S. Farm Policy Seen

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—This week information was made available to this reporter, and subsequently confirmed by top level officials who formulate farm policies, to the effect that they have determined a radical switch from the Benson philosophy in regard to price supports and surplus disposal. This change is expected to get congressional approval and also concurrence from the White House, reflecting the eclipse of the Benson regime at the U.S. Department of Agriculture.

USDA officials may be expected to go before the Senate Agriculture Committee to recommend a production-in-kind payment to wheat and corn farmers who will cut back their

(Turn to POLICY, page 89)

Reorganization of Albers Announced

LOS ANGELES — Alfred M. Ghormley, president of Carnation Co., has announced the reorganization of the firm's Albers Milling Co. subsidiary effective April 1.

H. E. Olson was elected president of Albers, in addition to his present responsibilities as financial vice presi-

(Turn to ALBERS, page 4)

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The regional circulation of this issue is concentrated in the southwestern states

Signal for a Turn

THE INSTITUTE OF ANIMAL AGRICULTURE conference held this week at Purdue University could well be regarded in the years ahead as an event of great historical importance. The evidence, the arguments, scientific data and general evaluation of man's relationships with his environment in the chemical age presented at the conference provide a most significant compilation of knowledge and reason. If used properly at this critical time, this compilation could serve as the pivot in turning the corner to better understanding of the use of agricultural chemicals for the benefit of mankind. Such a turn is urgently needed.

Information put together by the institute provides the answers to the faddists' arguments and the peddlers of "scare" literature. It can be used most effectively in the present attempt to modify the Delaney provisions of the House color bill, and on a broader scale it can serve as the basis for building public confidence in the safety and economy of modern food production.

Feed men should not miss the opportunity to visit face-to-face with their senators and representatives when they are home for the Easter recess. "Facts Your Congressman Should Know," published elsewhere in this issue, summarize a useful and sound approach, and arguments by the dozen and in detail are incorporated in the Feedstuffs report of the Institute of Animal Agriculture conference.

LOOKING TO THE EXTREME often can emphasize the danger of a trend, and such a reference was used most effectively at the IAA conference by Dr. Thomas P. Carney, vice president of Eli Lilly & Co. Said he: "If the spirit of the cancer clause were exercised to the extreme, if we eliminated from our lives everything that caused cancer in animals, mankind would be reduced to sitting around in the dark, naked and hungry, waiting to die of cancer."

Sound judgment and scientific fact must be the basis for evaluation of food additives, and this cannot be achieved through an inflexible decree such as the Delaney clause. If the efforts of the feed industry's leadership can be coordinated with the potential influence of the words spoken at Purdue this week, agricultural science can again direct all of its energy positively toward progress and history will have been made. It can be done.

Top of the Hopper

INTEREST AMONG GRAIN ELEVATOR men in feed processing operations is increasing, some reports indicate. With excess storage capacity in some areas and prospects for reduced earnings from government storage of grain, some elevator men are said to be showing new interest in offering feed processing services in order to supplement their business incomes. Possibly this would not involve full scale feed milling facilities in all cases, but more elevator operators may go into at least some phases of grain processing and molasses mixing for feeders in their areas.

THE POULTRY BUSINESS in Latin America, largely undeveloped in comparison with the U.S., seems to be providing good returns for those following modern production methods. We have a report from Mexico that states broilers are bringing 42@44¢ lb. and this report on an egg operation in Venezuela: A supplier with a 5,000-bird flock has such eager demand for

(Turn to **TOP OF THE HOPPER**, page 89)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

In some parts of the nation formula feed sales continue to climb as they have during the past few weeks, but in other parts, unsettled spring weather, including floods, has hampered delivery and thereby depressed sales, although demand for feed generally has been running strong. The hog-corn ratio, based on Chicago prices, was 13.7 this week, compared with 13.5 a week ago and 13.2 a year earlier. The wholesale feedstuff price index advanced 1.3 points to 82.4, well below 89.1 the comparable week a year earlier. The feed grain index edged up from 67.4 last week to 67.8 this week, but remained well below 70 the same week last year. (Feed market in detail on pages 90-92.)

Northwest

While the formula feed business is generally holding the ground it has gained during the past few weeks, the effect of spring weather on country roads has prevented delivery on many orders, and this has held down total volume for the week. Floods in some parts of the area also contributed to depressed sales. In fact, several manufacturers report their sales have slipped back slightly compared with the previous week.

However, several factors are tending to boost formula feed demand—stronger pork and egg prices, and at least the beginning of the depletion of the abundance of wet corn on farms. Although some tapering off was reported in cattle feed, the late spring has made supplemental feeding necessary, and that type of feed has been moving in fair volume. The seasonal pickup in poultry feed continues.

With the healthy demand for feed, manufacturers are expecting volume to advance significantly in the near future, at least as soon as the weather settles down.

Southwest

Formula feed business was slower this week, with further tapering off of cattle feed business and disappointing chick feed sales. Range feed business in the Southwest is limited, while feedlot operations continue at a good level.

Some trade sources felt that flood threats in the area were partly responsible for the slower pace, although these conditions were too local in nature to have any widespread effect.

Once again turkey starter, pig starter and broiler feeds provided the best part of the run. With ratios favorable in these lines, the trade looks for a good expansion in turkey, broiler and pig feeds.

Reports concerning price lists for formula feeds indicate that many will be changed from last week. Some mills are lowering price lists slightly, hoping that it might help running time for next week, which at the moment is not very well filled.

Northeast

Feed manufacturers trimmed their running time from 40 hours to 36 as sales tapered after a two-week buying splurge. Consumers retreated from the market to await developments after a little weakness appeared in some ingredients, especially the grains.

End products were in a fairly good position. Broilers were unchanged and milk held steady. Eggs were also steady.

The sales pattern continues to shift to more complete dairy feeds. Egg mashes topped in sales turnover. But increasing amounts of turkey starter and growing feeds are being moved, and chick starter and growing feeds are coming along. Some broiler feeds were sold.

The ingredient market was mixed during the week. Corn held about steady. Oats were off .5-1¢; barley was down 1¢, and feed wheat held unchanged. Soybean oil meal rose $1-$1.50 but settled back and ended unchanged. Gluten meal advanced $2 and linseed oil meal gained $1. Meat scraps were firm but unchanged. Fish meal held about steady, although there were some distress offerings.

Southeast

The formula feed business in the Southeast is reported as being very good. Broiler feed manufacturers report their running time as being above normal. Chick placements on the farm remain about unchanged from previous weeks.

North Georgia broiler prices were a little easier this week, with sales being reported between 17¢ and 18¢ lb. f.o.b. the farms. Offerings were adequate to take care of demand. Flood conditions have slowed down the movement of corn by barges to the Southeastern elevators, causing prices to advance slightly, making the delivered price to various destinations in the Southeast from $1.40 to $1.47 bu.

Most of the larger feed manufacturers had already bought their requirements for April at lower prices, and only the smaller mills which are buying on a week-to-week basis are forced to pay the increased prices.

Fairly good demand for soybean meal, with fewer offerings, has caused prices to advance 50¢ to $1 per ton. Cottonseed meal prices remain practically unchanged, although more and more oil mills are completing their crush for this season's operation, and many believe that prices will remain at the present level until new crop.

The demand for citrus pulp continues good, with prices unchanged at $35 f.o.b. Florida producing plants, although many of the processors have withdrawn from the market and are unable to offer any pulp for sale until they begin processing Valencias during the last half of April.

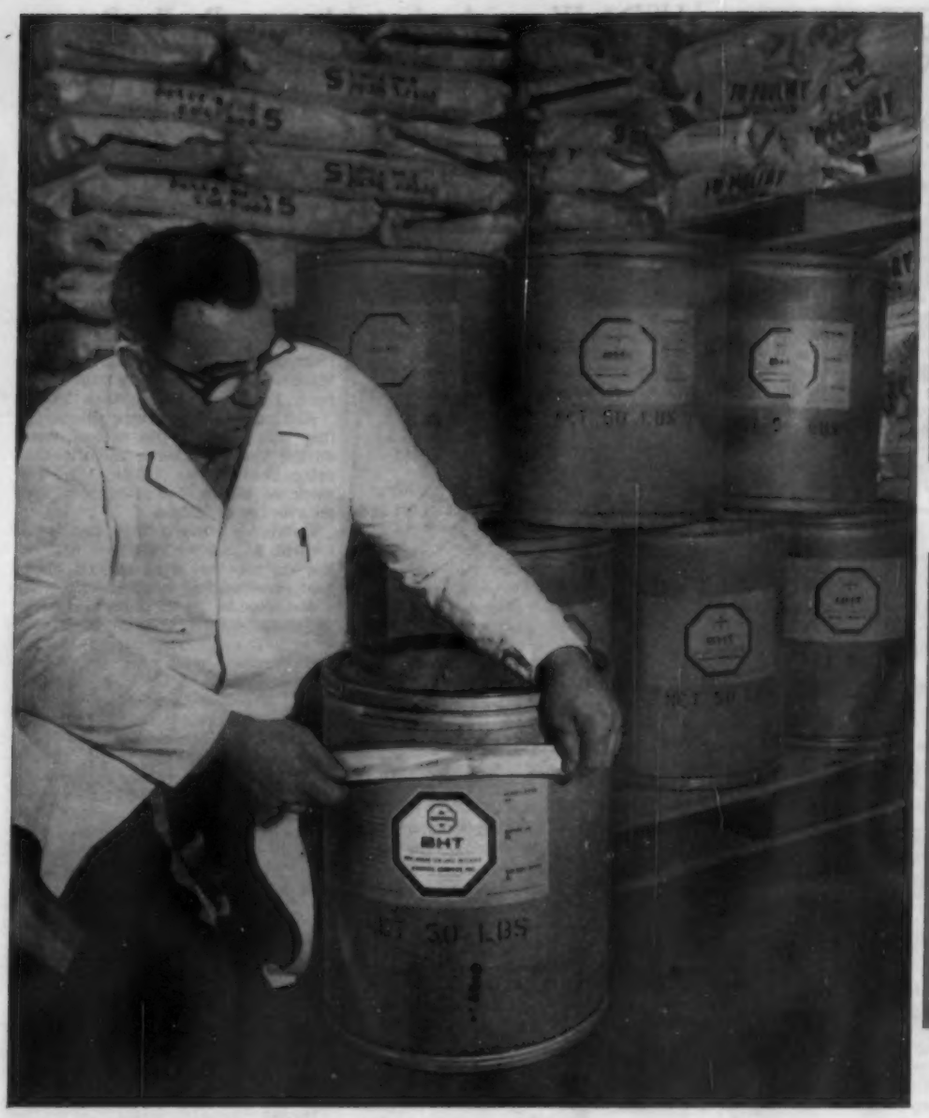
Central States

The new quarter in the formula feed business started out in a fairly satisfactory way regarding fresh sales, although there were a few spots where the demand did not seem to be quite as broad as it was during the closing week of March. However, considering the fact that last month was so much better than most any of the immediately preceding five, it might not be too accurate a measuring stick.

Things are moving along on a fairly even keel with practically all mills on a 40-hour basis, and some doing a little more than that. Backlogs are better than they have been since early last fall.

The corn-hog ratio for the week ending April 1 showed a pickup of a couple of tenths of a percentage point at 13.7 vs. 13.5 the preceding weekend, and 13.2 the same week last

(Turn to **MARKETS**, page 95)



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New Supersweet Plant Set for Iowa

MINNEAPOLIS—Plans for a new formula feed plant to be built at Le Mars, Iowa, were announced this week by the Supersweet Feeds division of International Milling Co.

The new mill will be located on six acres of property on the south side of Le Mars. When completed and in full production, the plant will employ about 30 workers.

Construction work is expected to begin April 18, according to Lloyd E. Workman, vice president of the company. The firm is soliciting construction bids now.

Fire recently destroyed a Supersweet Feeds mill, elevator and warehouse at Estherville, Iowa (Feedstuffs, March 12).

Production at Le Mars is expected to start by the end of the summer. The mill will include bulk handling and storage of products and other modern techniques of production.

The plant will have access to Illinois Central railroad trackage which runs adjacent to the property. The firm plans to build a railroad spur from the tracks to the new plant. U. S. highway 75 is available for truck pickups and deliveries.

Facilities at the new plant will allow the handling of both sacked and bulk ingredients as well as sacked and bulk finished feed.

Adjacent to the plant will be a 50-ton scale to obtain weights on incoming truck shipments and to weigh outgoing loads of finished feed.

"Bulk finished feed facilities located above the scale will discharge at a rate of 2 tons per minute," said Mr. Workman.

"When the mill is in full production, we'll be able to provide freshly mixed feeds to any point in our area of distribution within 24 hours after the order is received," said Mr. Workman.

When completed, the mill will produce and distribute the complete line of over 70 different formula feeds for poultry and livestock breeders and growers.

International Milling Co. formed its Supersweet Feeds division at New Ulm, Minn., in 1952 and the division has continued to expand. Le Mars will represent its 10th operating formula feed plant.

W. Berger Hospitalized

WASHINGTON — Walter Berger, director of the Commodity Stabilization Service, is recovering from major eye surgery at Johns Hopkins Hospital here.

The former president of the American Feed Manufacturers Assn. and feed industry figure is not expected to return to his work at the U.S. Department of Agriculture for 90 days.

INSTITUTE

(Continued from page 1)

will be dedicated to solving some of these problems.

The staff and facilities at the institute will be available to industry, government and food and fiber producers.

The Research Institute, including more than 70 staff members from Purdue, will study residue properties of such materials as food additives, animal feed additives, drugs and cosmetics, growth promoters, plant nutrients and hormones, insecticides, herbicides and fungicides.

Interested sponsors of projects are requested to contact John E. Christian, Trace Level Research Institute, for additional information. Research is carried out under contract between the sponsor and the Purdue Research Foundation for a minimum period of one year.

USDA TO HOLD CHEMICAL SYMPOSIUM

★

WASHINGTON—The U.S. Department of Agriculture points out that a symposium on "The Nature and Fate of Chemicals Applied to Soils, Plants and Animals" will be conducted by the Agricultural Research Service April 27-29 at the plant industry station at Beltsville, Md.

The industry representatives are invited to attend. However, due to space limitations, USDA has asked that company representation be limited to scientific and technical personnel who are familiar with the subjects to be covered during the symposium.

It is understood that USDA will publish papers which are presented and to be available for distribution soon after the symposium.

Egg Prices Advance Sharply in Most Areas

NEW YORK—Except for markets in the Far West, egg prices moved sharply higher during the week ended April 6.

The U.S. Department of Agriculture reports that buying was stimulated by advance orders for both Passover and Easter holiday needs. Demand steadily improved during the week.

Egg prices at eastern terminal markets were mostly 2@5¢ above week-earlier levels—and top quality eggs at New York were fully 14¢ above a year earlier. Prices advanced in Midwest production areas to close unchanged to 5¢ higher than a week earlier.

Movement of eggs from farms was delayed in the Midwest by impassable roads, but these muddy roads were being opened to traffic late this week, which was expected to release more eggs for marketing and possibly sap some of the strength from prices.

Broiler and fryer prices in the southern growing areas were marked by an unsettled downward trend as last week's late advances failed to be maintained, USDA reports. In Delmarva, however, paying prices were relatively unchanged, and on the West Coast the broiler market was unchanged to 1¢ higher.

USDA Warns Against Apple Pomace in Feeds

WASHINGTON—The U.S. Department of Agriculture this week announced its approval of a Food and Drug Administration campaign warning against use of apple pomace in feeds because of possible dangers of pesticide residues.

USDA recommended that "apple pomace not be used in livestock feeds unless it has been shown by analysis or other means that the pomace does not contain DDT or other pesticidal chemicals in amounts that will result in illegal residues in milk or meat." It was noted that while pesticides may be at safe levels on fresh apples, they are concentrated in the pomace and residues may appear in meat or milk when the pomace is fed.

The attitude of government as originally expressed by FDA and now confirmed by the USDA announcement is that residues of DDT and other pesticides in milk or meat are harmful.

The comments on use of apple pomace came at the same time that FDA was setting a tolerance for the pesticide Tedion on apples. A tolerance of 6 ppm was set for apples, but at the same time a zero tolerance was set for meat or milk.

To Operate Business At Springfield, Mo.

JEFFERSON CITY, MO.—The Farm Bureau Service Company of Missouri now has a long-term lease with the Central Feed Co. of Springfield and will operate the business under the Farm Bureau firm name, according to Hale Allen, general manager, Jefferson City.

Mr. Allen said that the Farm Bureau company has taken over the accounts of the Central Feed Co. and expects to service them as they have been serviced by Central Feed.

Central Feed Co. was a warehouse operation for The Quaker Oats Co., offering Ful-O-Pep feeds to its dealer accounts. "We shall continue this relationship with Quaker and expect to jointly build a program for each of us," Mr. Allen said. "In addition to services formerly offered by Central Feed Co., we will expand the line of merchandise by including such things as paints, automobile accessories, hardware items and many farm supply items."

Average Broiler Prices Higher During March

SALISBURY, MD.—Broiler prices during March of this year showed some improvement over the same period in 1959. The average price received for broilers this March was 3% higher than a year ago.

Price this March averaged 18.5¢ per pound. This compares with 18¢ for last year. Also, feed prices, at $4.65, were down 4% from last year. Chick prices remained the same at 11c.

Broiler prices dropped to 17.09¢ in Delmarva during the last week of March. The average price paid at the farm the week before was 18.11¢.

Although this dip was discouraging, this is only the second week during the past three months that prices have gone below 18¢. The week of March 4 was highest with an average of 19.98¢.

Delmarva's marketings last week totaled 3,728,000. This was 8% below the previous week but 1% above the corresponding week of 1959.

Nationwide, for 22 important broiler producing states, hatcherymen set 49,910,000 eggs. This was 3% above the previous week, but 2% below the corresponding week a year ago. States showing sizeable increases in settings included Virginia, Georgia, Alabama and Missouri.

Chick placements totaled 34,772,000. This was 2% below the previous week and 7% below the corresponding week a year ago. Decreases were reported for 15 states compared with the previous week. Largest decreases occurred in Virginia, Pennsylvania, and Maryland.

Catalin Corp. Expands Antioxidant Facilities

FORDS, N. J.—Catalin Corp. of America has completed its expansion of facilities to produce antioxidants, it was announced recently.

Major objective of the program was an increase of approximately 40% (raising capacity to some 6 million pounds per year) together with improved production efficiency and extra assurances of maintaining the highest product purity.

Products in which Catalin has boosted production include butylated hydroxy toluene, which the firm markets as CAO-3, in both food and feed grades. It is used to combat rancidity, loss of nutritive values, discoloration and other deterioration due to oxidation.

Symington Committee Invites Trade to Testify on Storage

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — Trade sources report here that the Symington committee has obtained agreement that the National Federation of Grain Cooperatives will appear here on request to testify on their position on the Uniform Grain Storage Agreement proposals of the U.S. Department of Agriculture.

No date has been set for this appearance, and it is believed now that this date depends on the decision of the Grain & Feed Dealers National Assn. and the National Grain Trade Council, which were also invited to send their representatives to appear before the Symington investigatory committee.

Information here on the decision of these two proprietary trade organizations is not available.

However, there are some influences in the making which may head off a "shin-kicking" showdown between USDA and the trade on the new USDA rate proposals.

The trade negotiating committee is scheduled to meet here at the close of this month for a final discussion with USDA officials.

Within official circles which have reviewed the USDA data on grain storage costs, there is an acute feeling that USDA officials have cut the handling charges in many instances

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STORAGE RATE CONCESSION EXPECTED

WASHINGTON — Indications are that U.S. Department of Agriculture officials sense that the proposed reduction in warehouse handling rates are too steep and when the next session of USDA's trade negotiating committee assembles it can be expected that the government officials will propose some major concessions both on truck and rail deliveries and out-loading.

When this condition was reported, other sources said without equivocation that there should be no disagreement with such concessions to the warehouse industry.

ALBERS

(Continued from page 1)

dent of Carnation Co. He succeeds Fred W. Hoover, Jr., who has resigned.

G. A. Ensminger, Albers vice president in charge of feed marketing, was elected executive vice president of the milling company.

Under the reorganization, Albers has been divided into three separate units. The milling division, headed by Mr. Ensminger, will have responsibility for production and procurement for itself, as well as for the cereal division and pet foods division. Henry C. Arnest, Carnation vice president in charge of the company's grocery products sales, in addition will be responsible for sales and merchandising activities of the Cereals and Pet Foods divisions.

George Forney, Albers vice president, is in charge of grain procurement for all three divisions.

Francis Albers will continue as an Albers vice president in charge of production for all three divisions.

In addition, Mr. Olson will serve as chairman of the milling division management committee, and Mr. Arnest becomes management committee chairman for both the cereal and pet foods divisions.

STERLING SALT PUTS A PLUS in Summer Sales Programs

Sterling Blusalt is a "PLUS" product in every respect. Its seven trace minerals (manganese, iron, sulfate sulfur, copper, cobalt, iodine and zinc) help protect animal health and provide proper trace-mineral balance. In summer, Blusalt can be used with portable fencing and water to move animals from pasture to pasture. Blusalt is a good profit item, backed by consistent advertising. Take advantage of all these "pluses" to get extra sales . . . feature Blusalt in a display of pasture equipment. Our colorful bags, sales aids and display material will help make your summer program a success. To order Blusalt, to get display or merchandising ideas, contact International's local representative or nearest district office: Boston, Buffalo, Charlotte, Chicago, Cincinnati, Detroit, Newark, New Orleans, New York, Phila., Pitts., St. Louis. Or write International Salt Company, Clarks Summit, Pa.

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Feed Industry Urged to Present Congress with Additive Information

DES MOINES—Feed men must continue to inform their congressmen of the need for congressional action to correct the present situation under federal additives legislation, agricultural and industry leaders point out. As noted previously, the feed industry has been urged to recommend to Congress a more realistic legislative approach that will permit the exercise of scientific judgment in determining the safety of food and color additives.

For one thing, this has involved suggestions of a modification of the Delaney cancer clause in the food additives amendment. (Feedstuffs, March 26, April 2)

In this connection, the Animal Health Institute, Des Moines, has released a fact sheet presenting information on the safety and importance of feed additives to agriculture and food production.

It is suggested that feed men use information in this presentation in their contacts with congressmen. Letters, telegrams and phone calls to representatives and senators have been urged. In addition, opportunities to have personal visits with members of Congress will present themselves when Congress has its Easter recess. The facts of the current situation can then be presented in person to lawmakers.

The following release by the Animal Health Institute has been made to help the industry in contacts with congressmen:

• • •

Facts Your Congressman Should Know About the Safety and Importance of Feed Additives to Agriculture (Food Production)

PRODUCTION EFFICIENCY IS VITAL—An estimate of the available acreage to supply food for the population of the world shows that each person is dependent upon 1½ acres of good crop land for his food supply. Since the land area is limited and the population is ever-increasing, it is of vital importance that the efficiency with which food is produced be improved.

CHEMICALS ARE ESSENTIAL—Much of the improvement in efficiency depends on controlling the ravages of pests, weeds and insects on our grain-producing crops and disease in our meat-producing animals. Further efficiency in animal protein production has been obtained through the use of chemicals which permit the animal to produce meat from less grain and forage.

The health of man, in large part, is dependent upon his diet, for the poorer the diet, the more he is subject to infections with microorganisms, and the same is true for our meat-producing animals. Thus, chemicals in one way or another have become essential to the production of food in our world.

PROPER USE—It is a well established scientific doctrine that all substances, whether created by nature or in the pots of a chemical plant, can be harmful to man when used improperly. Laws and regulations are therefore necessary to protect man from the improper use of "natural" or manufactured chemicals.

FRAME OF REFERENCE—However, these laws and regulations are effective only if they are set forth within a proper frame of reference. For the most part, the Food Additives Amendment permits enforcement of the law within a proper frame of reference.

"CANCER CLAUSE"—The one aspect of the Food Additives Amendment which is dictatorial and thus does not permit a frame of reference is the so-called "cancer clause." Since almost any substance can be "proven" to be cancer-producing—for example, sugar, ethyl alcohol, fats and estrogens, all of which are naturally occurring substances—the law imposes an impossible situation on scientific judgment and thus law enforcement.

CAN REMEDY SITUATION—This situation can be remedied by a cancer clause within an appropriate frame of reference which will permit the proper evaluation of the hazard. This would be accomplished by adding to the present clause the wording, "When ingested by man or animal in an amount and under conditions reasonably related to the intended use."

Such a modification of the Food Additives Amendment would permit the realization of a goal of good government—the principle of the greatest good for the greatest number.

SUMMARY—In summary:

1. Chemicals are necessary to supply the world with food.
2. Scientifically developed safety methods provide adequate protection for human food.
3. Legal regulation is desirable within a proper frame of reference.
4. The "cancer clause" in the law can be modified so that it does contain a proper frame of reference.
5. The law thus would provide the greatest good for the greatest number of people.

Says GMI Expanding Broiler Contracting

TEAGUE, TEXAS — Expansion of the direct contract method of broiler growing by General Mills, Inc., in Texas has been reported in the April issue of Texas Poultry Industry.

GMI has added a second operation area in Freestone and Leon counties, the paper reports, and about 300,000 broilers are being fed from the company's bulk station in Teague with no dealers involved.

Teague is the focal point of a heavy broiler-producing area with an estimated 2½ million broiler capacity within a 40-mile radius.

GMI has had a similar operation in the Hemphill area since last fall and now is feeding about 500,000 broilers from its bulk station at Bronson, according to the paper.

John E. Harris, manager of the Teague-Buffalo project, was quoted as saying producers contracting to grow for General Mills are given a 4¢ floor and a 9¢ top guarantee, depending on conversion.

Promote R. Woodward At Ralston Purina Co.

ST. LOUIS — Robert E. Woodward has been named manager of the product control department, Ralston Purina Co. The promotion was announced by Dr. R. M. Bethke, research vice president. Mr. Woodward succeeds Claude L. Welch, who died recently. He joined Ralston Purina in 1946 in the biological laboratory of the research department, where he helped supervise small animal experiments. In 1949, he transferred to the product control department as manager of the formula division.

R. E. Woodward

John R. Snyder replaces Mr. Woodward as manager of the formula division. He joined the Ralston Purina Co. in 1954

Pillsbury to Move California Operation

CLINTON, IOWA—The feed manufacturing function at The Pillsbury Co.'s mill in Sacramento, Cal., will be transferred to two other California mills located at Reedley and Modesto, announced Dean McNeal, Pillsbury executive vice president.

This move will enable Pillsbury to improve its existing flour milling facilities at Sacramento, explained Mr. McNeal.

Leo Bilger, Sacramento feed plant sales manager, has been appointed manager of the Reedley and Modesto operations.

Jacob Rubinoff Co. Names President

PHILADELPHIA—Edward G. Rubinoff, Vineland, N.J., has been named president of the Jacob Rubinoff Co., a poultry feed manufacturing concern which recently became a wholly owned division here of Son-Mark Industries, Inc. Abe Goldman, president of Son-Mark Industries, also announced Mr. Rubinoff's election to the board of directors of the parent firm.

The Jacob Rubinoff Co.'s mill and principal offices are located in Vineland, N.J. Mr. Rubinoff has served since 1948 as general manager of the 54-year-old firm.

The new president of the Jacob Rubinoff Co. is on the board of directors of the New Jersey Poultry Products Promotion Council and also serves as vice president of the New Jersey Feed Industry Assn. He was formerly vice president of the Eastern Federation of Feed Merchants.

Use of Eggs Promoted By Dr. Salsbury's

CHARLES CITY, IOWA — A full-color, full-page advertisement in the April Better Homes and Gardens magazine promoting the use of eggs is sponsored by Dr. Salsbury's Laboratories, Charles City. The advertisement includes color photographs on ways to include eggs in menus.

A spokesman for Dr. Salsbury's said, "We know the welfare of the poultry industry, from the poultry raiser to all of us who supply his needs—all the way down the line—depends on the demand for eggs and poultry meat. And one of the most logical ways to boost that demand is to make sure that millions of housewives are conscious of the importance of a good breakfast, especially with good eggs, and how versatile this food is. We believe this advertising will help do it."

Clears Enzymes for Non-Medicated Feeds

ELKHART, IND. — The Miles Chemical Co. announced this week that the production and sale of its Takamine enzymes for use in non-medicated livestock and poultry feeds have been given the go-ahead by the Food and Drug Administration. The announcement was made by L. A. Underkofler, director of the firm's enzymology research laboratory.

Dr. Underkofler said that specified enzyme products which are offered for use in non-medicated animal feeds are not food additives within the meaning of the food additives amendment of 1958. Also, he said, information received from FDA indicates that new drug applications are not necessary and petition is not required for such enzyme products.

The ruling stated that, in the opinion of the FDA, such enzyme preparations, "when derived from strains shown to be non-pathogenic for man and animals and prepared in accord with the manufacturing practices described in your (Miles Chemical Co.) detailed review would be generally recognized by qualified experts as safe for use in animal feeds. As such, it is not necessary for you (Miles) to file a petition covering them under the food additives amendment. Further, you (Miles) need not file a new drug application with this administration before marketing the enzyme preparation."

Dr. Underkofler pointed out that the ruling was a direct result of an earlier joint presentation by major enzyme manufacturers resulting in an exempt classification for enzyme products for use in the preparation and processing of food products; and now extended to include enzymes for use in non-medicated livestock and poultry feeds. The presentation was submitted to the FDA in behalf of Miles Chemical Co. through Dr. Bernard L. Oser, food and drug consultant.

Representing Miles Chemical at the FDA conference discussing the use of enzymes in livestock and poultry feeds were Dr. Underkofler and Martin P. Guina, manager, special product sales, Takamine products.

ADM Affiliate Official Dies in Auto Accident

MEXICO CITY, MEXICO—James V. Mayhall, sales manager for Industrial Pecuaria, S.A., a Mexico feed manufacturing operation affiliated with Archer-Daniels-Midland Co., Minneapolis, was killed April 5 in an accident involving two vehicles and two trains.

Another ADM worker, Reidar V. Arneson, was injured in the same accident. Mr. Arneson, who has been with the engineering department of ADM since 1950, was assigned as a production engineer with the Mexican affiliate in 1957.

Mexican police said a panel truck was struck by a passenger train at a grade crossing and thrown against a station wagon, which was pushed by the impact into the path of a second train. No report has been given as to which vehicle the two victims were riding in.

Mr. Mayhall, 40, had taken the Mexico City assignment only last November. Before joining ADM last year, Mr. Mayhall had been general manager of the feed division of McCabe Co., Minneapolis, and manager of the feed division of Farmers Union Grain Terminal Assn., Minneapolis. Before joining McCabe, he was associated with Union National Milling and Dover Milling Co., both of Ohio.

A native of Ohio, Mr. Mayhall was graduated from Ohio State University.

NEW VIRGINIA FEED MILL

NOMINI GROVE, VA. — A new custom grinding feed mill is under construction by the Northern Neck Grain Cooperative, Inc.,

TOLERANCES

(Continued from page 1)

the legislative and administrative segments of government.

A "reasonable and realistic" approach to residue tolerances was recommended by D. M. Doty, American Meat Institute Foundation, Chicago, so that restrictions will not hamper research and progress in food production technology.

"How can we help to maintain and increase the efficiency of food production and at the same time assure consumers that their foods contain no actual or potential health hazards?" asked Byron T. Shaw, administrator, Agricultural Research Service, U.S. Department of Agriculture.

"Is zero tolerance intelligent?" asked Dr. Herrell DeGraff, Babcock professor of food economics, Cornell University. "What is zero?"

Research

Dr. Shaw suggested that research can help solve the residue situation by: (1) Developing new chemicals and improved methods of application which are "above suspicion" on grounds of safety and (2) developing non-chemical methods for doing some of the jobs that are now done with chemicals.

He qualified his second suggestion by saying, "I want to emphasize that in proposing research to develop new chemicals, I do not mean to imply that we should abandon those now in use. As we move ahead in research and education, I feel certain that many of the chemicals now being questioned will be given a clean bill of health. However, we all recognize the need for more efficient ways of controlling crop and livestock pests of all kinds.

"Doubts are being expressed about some chemicals, especially those that appear to cause cancer when fed experimentally in large quantities to certain species of animals. Because of the fear of potential carcinogens, the public tends to question the safety of any chemical residue in food," Dr. Shaw stated.

"As a result, we may find that tolerances now set for various chemical residues in raw agricultural products will be removed—that no residues at all will be permitted, no matter how harmless. We may find that use of certain chemicals will be banned, even though they do not leave a detectable residue."

Dr. Shaw made this observation regarding the meaning of zero tolerances and chemical bans to livestock producers:

"They (livestock producers) are already much more restricted than crop producers in the use of insecticides. And they face the possibility of increasing limitations on the means they use to treat animal diseases and the use of feed additives for more efficient production."

Legal vs. Physiological

Mr. Doty devoted a portion of his discussion to the differences between legal and physiological tolerances.

"The legal tolerances which have been established for the residue in foods or feeds may have been completely unrealistic," he said. "This, of course, has nothing to do with the physiological tolerances, but only with the legal tolerances. From a scientific viewpoint, one should clearly differentiate these residue tolerance levels.

"The physiological tolerance may be quite high, but the legal tolerance, under existing laws, may be set at a very low level. As a scientist, it seems to me that we have been entirely too conservative in establishing legally safe levels for the materials which may be present in our foods and feeds."

Safety Is Relative

Mr. Doty continued, "Safety is entirely a relative term. In other areas of modern living, we recognize that it is impossible to set up conditions which will be absolutely safe for all members of the population under any conceivable set of circumstances. If we attempted to do this, none of us would be allowed to drive automobiles. Thus, it seems silly to the biological scientist to expect to set up regulations regarding agricultural chemicals and food additives that would protect completely every individual in our entire population in every set of circumstances. This is not possible with completely natural foods. Many of our food are carcinogenic under certain specialized conditions."

Mr. Doty said it seemed to him that "we should use the same criteria in establishing safe residue levels for agricultural chemicals and food additives that we use in considering safe levels for a natural food." A second point to consider in this connection, as Mr. Doty sees it, is that "never can one accomplish a zero level of any additive in a food product, if this material is used as a feed or food additive, either directly or indirectly."

Mr. Doty defined physiological tolerance for additives or residues which may occur in foods as the tolerance which limits the amount of material that is safe to use without adverse or harmful effects when used under reasonable conditions.

"Since we cannot test this with humans, we use two or three species of animals, and set the legal tolerance at 1% or 2 % of the physiological tolerance of the animal. If we used this same criterion to establish safety for foods in general or in other areas of human endeavor, we could not live, even in a 'stone age' civilization."

Research Curtailed

Mr. Doty said the "unusual and unrealistic" requirements that have been set up to test the safety of many of the additives to our foods and feeds and other agricultural chemicals have completely discouraged the technological research which is so necessary to our continued national well-being. "In fact," he said, "this has been so discouraging that some, at least, of our major companies have decided to drop any research leading to the development of any such materials. . . . The excessive testing requirements, which surround the development of any new food additives or agricultural chemicals, have been such that research personnel have had to spend their time in testing materials, rather than in the aggressive fundamental research necessary for our continued national development.

"These things," Mr. Doty continued, "make it imperative that we solve the residue problem in a realistic, progressive, scientific manner."

CONTRACT FEEDS EXEMPT FROM LAW

LITTLE ROCK, ARK. — Contract feeds are no longer considered subject to the Arkansas Feed Law and Regulations, reports Henry DeSalvo, head of the feed, fertilizer and pesticide division of the State Plant Board.

Definition of contract feeds is as follows:

" 'Contract Feeds' are those feeds owned solely by a manufacturer or a feed-mixer which are distributed under a written contractual agreement to a feeder for the specific purpose of feeding animals or poultry owned solely by such manufacturer or feed-mixer.

"For regulatory purposes, all shipments or deliveries of contract feeds as herein defined shall be accompanied by a statement or invoice bearing a clear statement to indicate that such shipments or deliveries are contract feeds."

The action exempting contract feeds was taken by the Plant Board April 1.

RESPONSIBILITY

(Continued from page 1)

the twin goals of farmers and all other members of the food industry team," Mr. Fleming said. He said misuse of agricultural chemicals "will only result in more government regulation and control."

He criticized the government for "enforcement by press conference." He said the role of the federal government in enforcing agricultural chemical regulations "should be that of the police officer, not the town crier."

"There Ought to Be a Law"

Ervin L. Peterson, assistant secretary of agriculture, talking about the government's function in assuring a safe food supply, said, "Too often problems are met with a 'there-ought-to-be-a-law' approach. It is surprising that so many segments of the private enterprise community so often look to governmental action as a means to overcoming competitive problems."

He said the road to Utopia, by government regulation, looks both inviting and easy. "It is that," he said. "But it is also something else. It is the way to escape responsibility. 'You tell us what to do and we'll do it,' reflects an attitude seeking such escape."

Mr. Peterson asked, "What is government's function in assuring a safe food supply?

"Categorically, responsibility for food safety resides at every point in the food chain from, and including, producers to consumers. That responsibility is moral, economic and legal. . . . Legal actions to compel a safe food supply are by themselves incapable of assuring safety."

Economic Incentives

Mr. Peterson observed that the economic incentives to provide safe foods are "certainly greater than the legal restraints upon processes, procedures or actions which have been determined to jeopardize their safety." He said he believed that the morality of citizens engaged in the private competitive enterprise system "is at least equal to that of those engaged in applying the force of government to that system."

After illustrating that food safety is a complex of many things—including cleanliness, absence of economic fraud, truthfulness—Mr. Peterson observed that government's role in food safety "is supplemental to and not in substitution for moral and economic factors."

"Government should, and does, exercise a surveillance over the food industry to identify actual or potential hazards, inform the industry of them, and, where necessary, acts to prevent their occurrence."

Safeguards

George T. Daughters, director, Detroit (Mich.) district of the Food and Drug Administration, said safeguards must be observed when toxic materials are allowed to be used in the production of meat, milk and eggs. These safeguards include: Producers administering the chemicals properly; enforcement agencies using practical analytical procedure for determining whether the finished food on the market contains excessive residues and using adequate facilities to enforce the rules permitting the use of toxic chemicals.

"Rules that specify safe conditions for using toxic materials do not by themselves safeguard public health," Mr. Daughters noted. "You don't insure driving within safe speed limits simply by establishing the speed limits."

JOINS FIRM IN IOWA

MILWAUKEE—Don Brown, Milwaukee, has joined the Fraser-Smith Co., Cedar Rapids, Iowa, following his resignation from the staff of La Budde Feed & Grain Co., Milwaukee.

Grain Trade Council Comments on Meeting

WASHINGTON—A statement calling for "reevaluation, revision and a substantial raise" in the proposed grain handling and storage rate levels has been made by the National Grain Trade Council in comments on the Kansas City "town hall meeting." (The meeting was reported in Feedstuffs, April 2.)

The text of the NGTC statement follows:

"For two days this week more than 1,000 grain merchandisers and grain warehousemen met with Commodity Stabilization Service officials and submitted their unanimously adverse views on the rates and on many of the terms and conditions of the proposed Uniform Grain Storage Agreement. These adverse views were submitted to a standing room only meeting by representatives of every national, regional and state grain industry organization and by individuals engaged in the grain industry in every grain producing area of the country.

"The CSS proposed handling and storage rates, based on an alleged cost study covering operations of selected warehouses during calendar 1958, were described as 'unfair', 'unwarranted' and 'not justified.' The cost study on which the proposed rates were based was described as 'unrealistic', 'subjective' and 'arbitrary.'

All Disputed Rates

"Not one of the 150 persons whose views were presented at the meetings agreed with the study or the rates based on its alleged conclusions. All whose views were presented disputed in varying degrees of detail the validity of CSS's use of averages for value per bushel of storage facilities, for return of this averaged value of 50¢ bu. and for storage occupancy. The failure of CSS to make adequate allowance for labor, depreciation, shrink, deterioration and return in capital, was severely criticized. This criticism was substantiated by facts, figures, and conclusions based on the actual operating experience of a number of warehouses, including warehouses whose operations were part of the CSS statistical study.

"Averages, drawn even from 'objective' spot checks or incomplete

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Iowa Firm Announces New Bulk Body Line

DES MOINES, IOWA — A new firm, New Way Manufacturing Co., manufacturer of bulk feed bodies, has announced its new line of bodies to be called the "Challenger."

Norman Melos, president of the organization, explained that the bulk equipment will receive national distribution, and that an expansion program is underway. Long range planning calls for manufacture of stationary milling equipment.

Assisting Mr. Melos will be C. W. Brown, general sales manager.

Mr. Melos also announced the appointment of Bob Moranic as project engineer for the firm.

Mr. Moranic, a graduate of Michigan State University, has been associated with the Delavan Manufacturing Co.

JOHN DODGEN RECOVERING

COLORADO SPRINGS, COLO.—John N. Dodgen, president of Dodgen Industries, Humboldt, Iowa, is recovering here from major surgery on his back as the result of a ruptured disc. Mr. Dodgen, who has had trouble with a slipped disc for a number of years, was hospitalized here after he complained of a numbness in his back while on a business trip. Mr. Dodgen's extensive surgery included two bone grafts. He is reported to be progressing nicely and is expected to return to Iowa soon.

New UGSA, Other Problems Discussed at Texas Meeting

By Special Correspondent

HOUSTON—Progress in negotiating a new Uniform Grain Storage Agreement and other problems of interest to either the feed trade or the grain industry were discussed recently at the Texas Grain & Feed Assn. convention.

This was the largest annual convention in the history of the Texas trade. Some 746 men and women guests registered and 796 went to the banquet and floor show.

Although the general sessions drew large crowds, the two smaller meetings that emphasized problems of either the feed trade or the warehouse industry, had the closest interest.

About 100 feed mixers and distributors met under the chairmanship of W. D. Nusbaum, Fort Worth, to recommend an association feed program for the coming year. Regional feed meetings, where subject matter is selected by feed men of each area and where discussions will be mainly by local dealers, received wide approval and probably will be scheduled in the late fall.

Grain warehousemen heard reports from their trade negotiators on progress in making a new contract with the Commodity Credit Corp. for 1960 and were encouraged by the open predictions that CCC will be forced, by virtue of trade demonstrations March 30 in Kansas City, to improve their contract rate offer.

Less optimistic was the talk by C. H. Moseley, Dallas office director for the Commodity Stabilization Service, who reported approved warehouse space of 626 million bu. now available in Texas, compared with 529 million in 1959 and 353 million in 1958.

"This tremendous expansion in so short a time," he pointed out, "leaves Texas with 83 million bu. of empty space this spring."

Mr. Moseley said that his office will continue approval even where a warehouseman is forced to pile grain on the ground during the emergency harvest period and where such customers' grain is not receipted but under the general responsibility of the warehouseman. The approval will be continued under an understanding or agreement that the warehouseman will dry, ship or store the grain within a reasonable time.

Raps Proposed Rates

In his opening convention address, Walter Blanton, president, told the audience that if the rates first proposed by CCC were made final in the 1960 agreement, almost one fourth of the Texas warehousemen would have financial difficulty in the coming year. The reduction in rates proposed by CCC was heavier in this southwestern area where costs are normally higher, and this "discriminatory cut" was resented by warehousemen at the Texas convention.

Officers were elected at the close of the convention.

Truitt Kennedy, manager of Cargill, Inc., Fort Worth, was named president of the group; Warren LeBourveau, Mathis (Texas) Elevator Corp., vice president, and W. A. Gandy, manager of Paymaster Feeds, Abilene, second vice president. R. B. Bowden continues as secretary-treasurer.

New members of the board of directors are: Clark Miller, manager of Corpus Christi (Texas) Public Elevator; W. L. Newsome, C-G-F Grain Co., Fort Worth; Frank Phariss, Pro-

(Turn to TEXAS, page 93)

to meet competition easily and economically . . .

CK Econoloc

Don't Mix Without

(Soyoil and lecithin concentrated on Soymeal)

Once increased fat content in rations was out of reach of many mills because of costs and difficulty of handling. No more.

New Econoloc is easy to use—without mess and without special equipment. It is ready to use, a granular free flowing source of vegetable fat (lecithin, Vitan.in E, and Tocopherol) for all livestock and poultry feeds. Its odor is pleasant, its quality uniform.

Here's the economical way to provide your customers feeds with all the health and palatability advantages found in increased fat content. Comes packed in 50 lb. moisture-resistant bags.

Better get the full story and the good news about Econoloc's price today.

Econoloc
is another champion from the CK line of feed ingredients which also includes
*Econolass — Blackstrap molasses dehydrated on Soymeal.
*Econosol — Fish solubles dried on soymeal.
*New Econoform — Multiple cultured product absorbed on soymeal.

CK Processing Company

THE BEST FRIEND YOUR FEED HAS EVER HAD!

Active Demand Ups Ingredient Market

Continued high level activity in formula feed sales and some supply restrictions advanced prices of most ingredients this week.

Major gains by some animal protein feeds, most grain high-protein feeds and all millfeeds were reported during the week ended April 5. The index of weighted prices recorded by the U.S. Department of Agriculture for basic ingredients was .4 stronger April 5 than on March 29.

Reduced production of millfeeds was reported by major markets. Some buying was limited to strictly nearby requirements as feed manufacturers resisted currently high millfeeds prices, but there was enough formula feed movement to force some manufacturers into the market at regular intervals. Manufacturers and jobbers were active during the week in replacing inventories which have been used up because of the heavy demand for formula feed created by the cold spring weather.

Soybean meal averaged $1.45 ton higher at main markets. USDA reported that demand has been good but offerings appeared to be more than adequate.

Demand for tankage and meat meal was quite strong, and reduced marketings of livestock, mainly because of poor road conditions, contributed to higher prices for animal protein feeds.

Demand for brewers dried grains improved during the week. In general, output of these ingredients was increasing, but brewery strikes in Milwaukee were expected to reduce supplies to some extent.

The balance of the feedstuffs list was mostly unchanged, but prices appeared to be on the firm side.

Average Bulk Prices and Index of Weighted Prices*
(Dollars per ton)

	Apr. 5, 1960	Mar. 29, 1960	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	67.40	65.95	+1.45
Cottonseed meal	63.35	63.55	— .20
Linseed meal	68.65	68.90	— .25
Copra cake or meal	72.50	72.50	...
Peanut meal	52.50	53.50	—1.00
Index	86.5	85.4	+1.1
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	81.20	79.95	+1.25
Tankage	82.00	80.25	+1.75
Fish meal	97.50	99.00	—1.50
Index	73.2	72.6	+ .6
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	47.20	47.20	...
Dist. dried grains	56.25	53.60	+2.65
Brewers dried grains	41.90	40.50	+1.40
Index	75.1	74.0	+1.1
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	47.55	46.10	+1.45
Midds. and shorts	48.80	46.70	+2.10
Index	87.0	83.9	+3.1
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	46.20	44.60	+1.60
Rice bran	29.00	27.50	+1.50
Index	69.6	67.0	+2.6
ALFALFA MEAL			
Prices at prin. mkts.	56.80	56.50	+ .30
Index	109.3	108.8	+ .5
MOLASSES, FEEDING			
Prices at prin. mkts.	20.79	21.01	— .22
Index	61.9	62.5	— .6
ALL FEEDSTUFFS			
Index	82.4	81.1	+1.3
FEED GRAINS			
Prices at prin. mkts.:			
Corn	41.70	41.40	+ .30
Oats	48.50	48.20	+ .30
Barley	42.30	42.40	— .10
Grain sorghums	39.10	38.40	+ .70
Index	67.8	67.4	+ .4

*Base period of index is 1947-49.
Source: Agricultural Marketing Service, USDA.

ELECTED TO SCHOOL BOARD

ST. JOSEPH, MO.—Dwight L. Dannen, president of Dannen Mills, has been elected to a six-year term as a member of the St. Joseph board of education.

FDA Preparing New Trace Mineral Proposal

CHICAGO—The Food and Drug Administration is currently considering the publication of a new trace mineral proposal to replace the list previously issued and subsequently withdrawn, the American Feed Manufacturers Assn. reported this week.

FDA in March withdrew the original list of trace minerals proposed for classification as "generally recognized as safe." Industry spokesmen and college scientists had filed objections to certain limits and restrictions on trace mineral use in feeds as given in the original list.

AFMA said the new proposal is scheduled for publication about May 1. FDA officials have indicated in advance their current ideas on the contents of the new proposal.

The new proposal, said the AFMA bulletin, will:

(1) Basically consider all the listed trace mineral compounds as feed nutrients.

(2) All restrictions and limitations contained in the earlier proposal will be removed except that levels about 10 parts per million (.0010%) of copper compounds in sheep feeds will not be generally recognized as safe and more than one part per million (.0001%) of cobalt compounds in other than ruminant feeds will not generally be recognized as safe. These limitations refer to the amounts added to the total daily feed intake of the animal.

With these two exceptions (copper compounds in sheep feeds and cobalt in non-ruminant feeds) all trace mineral compounds will be generally recognized as safe under conditions of their intended use. All manufacturers should realize, of course, that unnecessarily high levels beyond the nutritive requirements of the particular species could be unsafe as well as uneconomical.

"To avoid misunderstanding," said AFMA, "we want to make it clear that FDA is not saying that levels of copper compounds above 10 ppm in sheep feeds are necessarily unsafe per se, but to sanction such use, evidence will have to be presented. The same is true of cobalt in non-ruminant feeds. FDA's concern about the use of cobalt in other than ruminant animals is based to a great extent on possible damage to pets (dogs particularly) where the feeding period could cover the entire natural life of the animal."

Prior to the publication date (about May 1), FDA is willing to review any evidence the industry or others may wish to submit regarding the use of copper compounds in sheep feeds and the use of cobalt compounds in other than ruminant animals. These tentative limitations may be revised if, in the opinion or FDA experts, such revision is warranted, the AFMA pointed out. Any comments may be sent to Dr. O. L. Kline, director, Division of Nutrition, Food and Drug Administration, Washington 25, D.C.

It also was pointed out that, as in the case of the earlier proposal, the new proposal, when published, will be subject to comment by any interested and qualified person.

Feed Broker Dies

NEW ORLEANS—Werner Loewenbaum, operator of a feed brokerage company by the same name, died as the result of a heart attack April 4. Mr. Loewenbaum had been operating his feed brokerage business in New Orleans for many years. Services were held April 5.

REPLACE SKIM MILK POUND FOR POUND in feeds for...

at 15% level

at 10% level

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Agriculture Changes in '60's To Be AFMA Session Topic

CHICAGO—"Our Changing Agriculture in the '60's" will be a theme of an afternoon speaking program of American Feed Manufacturers Assn.'s annual meeting in Chicago, May 10-11.

Four leading economists and top management of the feed industry will closely examine the future prospects of livestock and poultry production.

In addition, Allan B. Kline, past president, American Farm Bureau Federation, will speak at the convention on agricultural policies in the decade ahead.

Topics under consideration in the afternoon talks Tuesday, May 10, will include: capital and money management, geographical changes in livestock production and consumer concentrations, demands for quality and uniformity of food products, financial and management status of feeders, feeder margins and the size and amount of specialization by farmers and feeders.

These possible changes in agriculture and their effect on the feed industry will be discussed by Dean McNeal, executive vice preseident, Pillsbury Co.; A. J. O'Brien, secretary and chief finance officer, Ralston Purina Co., and G. A. Ensminger, vice president in charge of marketing, Albers Milling Co.

Another speaker at the same session will be John F. Gustafson, associate with McKinsey & Co., Inc., Chicago, a management consulting firm.

Mr. McNeal's talk will include such items as changes in livestock production and consumer concentrations, demands for quality and uniformity of food products, financial and management status of feeders, feeder margins and the size and amount of specialization of farmers and feeders.

Mr. O'Brien will develop one theme of Mr. McNeal's general outline, talking on "Capital and Money Management."

The second speaker to develop a theme from Mr. McNeal's talk will be Mr. Ensminger, concentrating his remarks upon "Marketing the End Product." This talk will include such elements as contract farming and integration.

Mr. Gustafson will discuss feed manufacturing problems of "Cutting Costs and Improving Efficiency" in the decade ahead in his portion of Mr. McNeal's talk theme.

(Other program details were outlined in Feedstuffs April 2.)

Three college nutrition scientists who received AFMA's $1,000 awards will be recognized at the convention. They include: Dr. Allen D. Tillman, Oklahoma State University (animal science); Dr. Harry R. Conrad, Ohio Agricultural Experiment Station (dairy), and Dr. Hans Fisher, Rutgers University (poultry).

Ralph F. Kneeland, Food and Drug Administration, Washington, will report the latest federal government interpretations of the Delaney Amendment and its bearing on agriculture.

AFMA estimates that more than 2,300 feed men, college and government personnel and members of press, radio and television will register for the national meeting.

Adds Machinery

SANTA ROSA, CAL.—Ben Marcus, Santa Rosa Feed Co., has made extensive additions to his production machinery. California Mill Equipment Co. has installed two Butler tanks, a Universal elevator, some screw conveyors and a Crippen grain scalper.

Delaware Firm Adds Research Laboratories

MILLSBORO, DEL. — An open house was held recently at the Delaware Poultry Laboratories to officially open a building addition housing new laboratories.

The new wing, to be used for bacterial and virus isolations control tests, doubles the working space of the company.

A subsidiary of Sterling Drug, Inc., the firm sells vaccines, antibiotics and other poultry health products. Also, there are facilities for diagnosing poultry diseases for service men and growers.

California Feed, Grain Unit Names Meeting Speakers

LOS ANGELES—William E. Warne, who recently was appointed director of the California Department of Agriculture, has been announced as featured luncheon speaker April 22 at the California Hay, Grain & Feed Dealers Assn. convention here. The group will hold its convention April 21-23 at the Ambassador Hotel.

Two speakers for the business session also have been announced. They

(Turn to CALIFORNIA, page 88)

Experts Discuss Role of Agricultural Chemicals in Production of Food

URBANA, ILL.—"It takes at least 5 years of extensive testing and costs at least a million dollars to put a new agricultural chemical on the market." Dr. Thomas H. Jukes, chemist at American Cyanamid Co., made this comment recently before a University of Illinois Farm and Home Festival audience.

Dr. Jukes said that the health and vigor of Americans are a tribute to the role this research plays in protecting the nation's food supply.

Speaking along the same lines, Dr. George C. Decker, University of Illinois entomologist, said that the average citizen takes our bountiful food supply more or less for granted.

"Few Americans realize the important role pesticides and other chemicals play in maintaining our high standard of living," he said, "And if the use of chemicals were banned tomorrow, the yield of many crops would be reduced 10 to 90%."

Dr. Jukes, in discussing aminotriazole, the weed killer of recent cranberry fame, said many chemists believe its danger to the public is negligible.

"The amount of aminotriazole in cranberries that were sprayed with the chemical was only a minute fraction of the amount needed to produce a measurable effect on humans," he said. "In fact, many pathologists doubt that aminotriazole is even cancerous to rats."

Dr. Decker spoke of the cranberry incident, too. "It involved minor error in judgment and misuse," he said, "but none has posed a real public health hazard."

Dr. Decker estimated that the destruction caused by agricultural pests range somewhere between $8 and $15 billion annually.

"I know of no other group of chemical or mechanical tools used by so many different people under so many diverse conditions that comes even close to the safety record established in the field of pesticide usage," he said.

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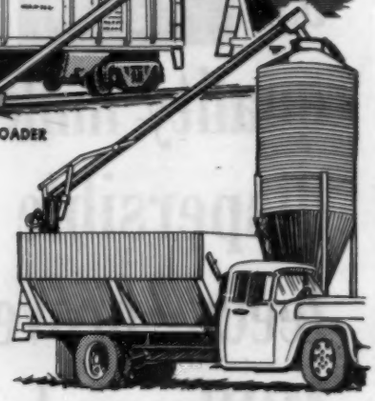

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Benson Predicts Improvements in Poultry Business

DOVER, DEL.—Ezra Taft Benson, secretary of agriculture, predicted "considerable improvement" in the poultry industry during a speech at a joint banquet of the Delaware State Grange and the Delaware Poultry Improvement Assn.

He also emphasized a shift toward research and market improvement rather than price supports.

"I think it is fair to suggest that you are not particularly desirous of having either government or the Teamsters Union meddle in your business," Mr. Benson said. (He was referring to efforts of James R. Hoffa, Teamsters president, to organize the New Jersey egg farmers.)

As broiler producers make adjustments to the low prices last year, Mr. Benson said, statistics show a significantly smaller supply of hatching eggs and chicks which should help make 1960 a much better year.

"We must not," the secretary emphasized, "put the government into the poultry business." At the time the government set support prices for eggs in 1950, he said, the whole poultry industry was disrupted and the program cost approximately $190,000,000.

He said that although the U.S. has donated nearly $2 billion worth of farm products to the needy abroad since 1953, problems exist in giving surplus food away. "To throw give-away surpluses into the stream of trade could wreck world commodity markets and do far more harm than good," he said.

The secretary, in discussing the growth of the poultry industry, noted that annual egg production per bird has risen from about 110 to over 200, commercial broilers now produce most of our chicken meat, and poultry production brings farmers cash receipts of between 3 and 4 billion dollars a year.

Among the guests at the banquet were: Lt. Gov. David P. Buckson of Delaware; James Davis, president of the Eastern Shore Grain & Feed Dealers Assn.; Joseph Bethards, president of the Delmarva Poultrymen's Assn.; James H. Baxter, Jr., president of the Delaware Farm Bureau; Webb Cassell, president of Delmarva Poultry Industry; Dr. John Hammond, chairman of the Delaware Poultry Commission, and Charles N. Landon, president of the Eastern Shore Poultry Growers Exchange.

Poultry Inspection Law

RALEIGH, N.C.—Agriculture Commissioner L. Y. Ballentine says he will ask the 1961 General Assembly to enact legislation making inspection of North Carolina poultry mandatory.

"Poultry processors in the state are not making use of voluntary inspection services for poultry bought and sold within the state," reports Mr. Ballentine.

Federal regulations require inspection of poultry moving in interstate commerce. The federal government pays for the inspections for interstate trade, but the voluntary inspections for intrastate traffic are financed by processors using the service.

Mr. Ballentine says the agriculture department plans to ask for a law requiring inspection of both poultry and other meat handled within the state. He indicated the proposed inspection would be financed by the state.

E. Ray Siler

PURINA OFFICIAL TO RETIRE—Retirement of E. Ray Siler, treasurer of the Ralston Purina Co., has been announced effective Oct. 1 (Feedstuffs, April 2). Mr. Siler, who has been treasurer of the firm for 14 years, is retiring to devote more time to youth projects.

Elanco Products Co. Vice President Named

INDIANAPOLIS, IND. — Appointment of O. B. Swearingen as vice president of agricultural products marketing was announced recently by Elanco Products Co., a recently formed division of Eli Lilly & Co.

O. B. Swearingen

George L. Varnes, president of Elanco, said that Mr. Swearingen will be responsible for all facets of agricultural marketing, including sales, merchandising, advertising and technical services.

Specialists on the agricultural products marketing staff include Dr. Charles F. Chappel, manager of technical services; Wilfred C. Fish, field manager of sales; David Wothke, chief of advertising, and Jack R. Shore, advertising assistant.

Mr. Swearingen joined Lilly in 1923 as a salesman in Chattanooga following his graduation from the University of Tennessee School of Pharmacy. In 1938, he was named sales manager of the Memphis district. He was transferred to the home office as staff assistant to the director of the sales division in 1953. His latest position was director of sales in the Lilly agricultural and industrial products division.

Elanco Products Co. will continue to market Stilbestrol, Hygromix, Micro-Pen and other products for use in agriculture. Farm products that may be developed in the future at the Lilly agricultural research center also will be offered by the new division.

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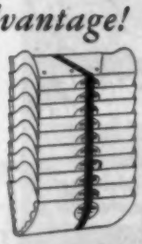

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Southeastern Poultry Committees Chosen

DECATUR, GA.—Appointments to serve on various commodity committees of the Southeastern Poultry & Egg Assn. have been announced by J. M. Tankersley, association president.

Mr. Tankersley defined the responsibilities of the committees as follows: "To study the problems encountered in the production, handling and marketing of turkeys, eggs and broilers produced in the Southeast, and to recommend to the association such actions advisable to bring about more favorable conditions for the southeastern industry."

Homer Kline, Harrisonburg, Va., was named chairman of the turkey committee; Joe Frank Sanderson, Laurel, Miss., chairman of the broiler committee, and Mays Montgomery, Athens, Ala., chairman of the egg committee.

Committee members are:

Turkey committee members: Harold Mayer, Walterboro, S.C.; Hilton Brooks, Monroe, N.C.; Charles Griffin, Marshville, N.C.; Homer Long, Edinburg, Va.; W. C. Bates, Jr., Fort Deposit, Ala.; W. F. Floyd, Forsyth, Ga.; Paul G. Thomas, Sumter, S.C.; Marvin Johnson, Rose Hill, N.C.; Oscar Boyst, Princeton, W.Va.; Baker Jones, Elkton, Va.; Glenn W. Rhodes, Ocala, Fla.; Carl H. Lay, Harroldsburg, Ky.; L. S. Marston, Zephyr-hills, Fla.

Broiler committee members: Charlie Miller, Piedmont, Ala.; Shannon M. Skelly, Albertville, Ala.; A. J. Smith, Trussville, Ala.; W. E. Draper, Jacksonville, Fla.; Fred Coats, Gainesville, Fla.; Ed Aubrey, Jr., Louisville, Ky.; Hugh Purnell, Tupelo, Miss.; Jim Beasley, Athens, Ala.; John Rogers, Morton, Miss.; Dick Breeden, Morganton, N.C.; Cecil Payne, Morton, Miss.; Dewey Sanderson, Raleigh, Miss.; Dennis Ramsey, Rose Hill, N.C.; H. C. Kennett, Durham, N.C.; Don E. Huntington, Spartanburg, S.C.; W. H. Gardner, Nashville, Tenn.; Henry Tilford, Jr., Shelbyville, Tenn.; Izzy Kendrick, N. Wilkesboro, N.C.; Walter Wofford, Hartsville, S.C.; R. L. Strickler, Jr., Harrisonburg, Va.; Bill Moore, Richmond, Va.; Ed Baker, Moorefield, W.Va.; Smith Johnston, Woodstock, Ga.; C. F. Clegg, Pine Mountain, Ga.; C. C. Osier, Bowdon, Ga.; Julius Bishop, Athens, Ga.; Richard Harris, Gainesville, Ga.; John Faulkner, Bowling Green, Ky.; Willard Adcox, Dalton, Ga.; Ray Fechtel, Atlanta, Ga.

Egg committee members: E. O. Creel, Decatur, Ala.; Merlin Bryant, Brundidge, Ala.; John Foust, Oneonta, Ala.; John Wallace, St. Petersburg, Fla.; Claude Boggs, Atlanta, Ga.; Paul Davis, Douglasville, Ga.; Sidney Miller, Irwinton, Ga.; Dr. Ken Laurent, Augusta, Ga.; Bev Yeiser, Winchester, Ky.; I. R. Staples, Perry Park, Ky.; Claude Smith, Jackson, Miss.; D. T. Irby, Hattiesburg, Miss.; Bill Garth, Pelahatchie, Miss.; Mack Blackwood, Drew, Miss.; Maurice Pickler, New London, N.C.; Charles Cook, Charlotte, N.C.; John Hamby, Durham, N.C.; Fred Pinkard, Chattanooga, Tenn.; Blanton Smith, Nashville, Tenn.; W. G. Wofford, Hartsville, S.C.; Walter Tuten, Columbia, S.C.; Norman Sanders, Columbia, S.C.; Bob Weidlick, Roanoke, W.Va.; Garland Benton, Richmond, Va.; A. Lyle Green, Troy, Va.

DOG NAMING CONTEST—A contest to find a name for this Weimaraner pup is being sponsored by Western Condensing Co., Appleton, Wis., makers of Peebles' D.D.F., a milk, cheese and vitamin fortified dog food premix. One of the 18 contest prizes is a Philco stereophonic high-fidelity sound system valued at $675. The contest will be open until May 12. Entry blanks may be obtained by writing the company direct, according to James R. Wall, feed ingredient sales manager.

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Inventor Says Device Predicts Sex of Chicks

ROCKY FORD, COLO.—An inventor from Rocky Ford, Francis H. Clute, announced recently that he has perfected a device that will determine the sex of a chicken egg by electro magnetic currents.

Mr. Clute says that his invention, called a "sex selectroscope," separates eggs into three classes—male, female and nonfertilized. Also, the device is reported to rate the vitality of the embryos, or to designate which eggs will produce the stronger chicks.

Mr. Clute has foreign and domestic patents on 60 other inventions, including a livestock feed pelleting machine.

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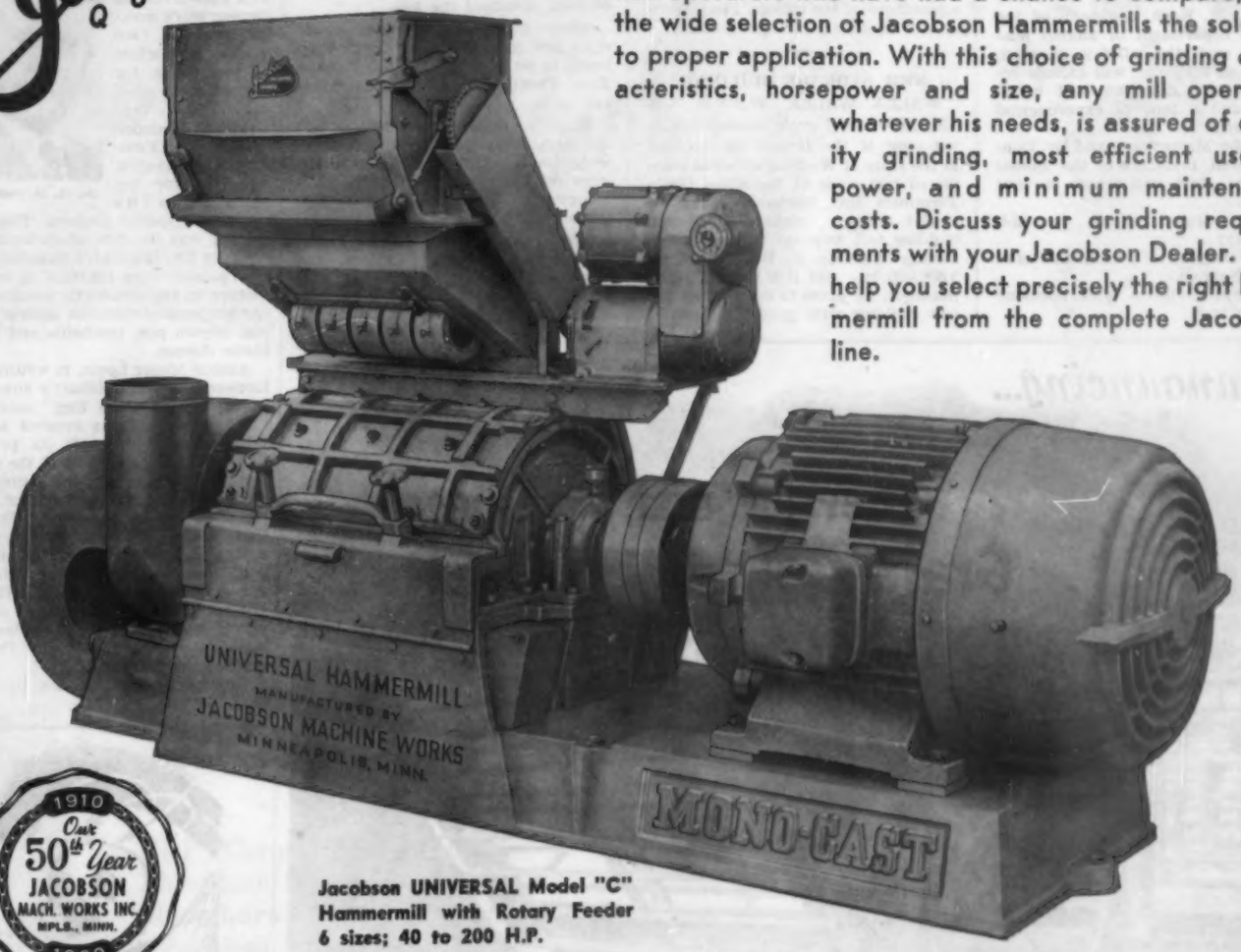

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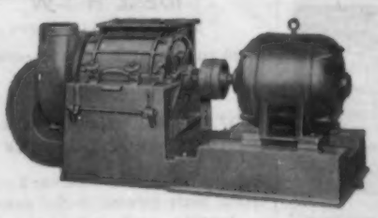

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Feeders Day Plans Readied at Nebraska

LINCOLN—Dr. A. D. Weber, vice president of Kansas State University, Manhattan, will be guest speaker at the 48th annual Feeders Day April 22 at the University of Nebraska College of Agriculture.

Dr. R. M. Koch, chairman of the college's department of animal husbandry, said the all-day program starting at 9:15 a.m. will include results of four different beef cattle studies and a tour of experimental cattle barns.

Dr. John Matsushima and Dr. Donald Clanton, members of the animal husbandry staff, will report on four projects:

(1) Dehydrated alfalfa vs. suncured hay;

(2) Managing calves in the sand hills of Nebraska;

(3) Feed additives and hormone implants, and

(4) Pelleted rations for beef cattle.

Dean Selleck, livestock nutritionist, Farr Farms Co., Greeley, Colo., will speak on the afternoon program.

Members of the college's Block and Bridle Club will conduct a noon barbecue.

Friday night the Block and Bridle Club will hold a banquet in honor of Dr. Marvel Baker, assistant dean of agriculture at the college. Dean Weber will be among the speakers.

NEW STORAGE BUILDING

WALLA WALLA, WASH.—A 3,300,000 bushel grain storage building—one of the largest of its kind in the state of Washington—was completed last week at the River Grain Terminals, Inc., Burbank. The giant sheet-metal, rectangular-shaped building will increase the company's storage capacity at Burbank to 5,850,000 bu., says Bob Lowert, plant manager. He plans to start filling the new building with grain by April 8.

Iowans Tour Quality Egg Program Plant

DES MOINES—A group of Iowa feed dealers and egg producers recently toured the Heefner Poultry Co., Lebanon, Ind., to see how eggs are handled in the fresh fancy egg program. The Boeke Feed Co., Des Moines, arranged the trip.

About 600 cases of extra grade eggs are shipped out of Iowa each week to be packaged at the Indiana firm. Premiums of 3-5¢ per dozen are paid.

Rigid regulations are set up and the eggs must pass inspection as to weight and height of albumen in the eggs on the basis of breaking of a sampling of the eggs offered for this grade.

The eggs are brought to feed businesses and produce stations and trucked to Indiana, Howard Boeke, head of the local feed company, explained.

Dr. Arthur Goldhaft of Vineland Labs Dies

VINELAND, N.J.—Dr. Arthur D. Goldhaft, one of the nation's first veterinarians to specialize in poultry pathology, died April 2 at his home in Vineland. Dr. Goldhaft was also well known for his pioneer work making possible the mass production of vaccine for Asian flu.

Dr. A. D. Goldhaft

In 1914, Dr. Goldhaft founded the Vineland Poultry Laboratories, a clinic for research into the control of poultry diseases. This laboratory was the first of its kind.

Under Dr. Goldhaft's direction, the laboratories were the first to manufacture laryngotracheitis vaccine and egg-propagated vaccines against fowl pox, pigeon pox, tracheitis and Newcastle disease.

Author Meyer Levin, in writing the foreword to Dr. Goldhaft's autobiography, "The Golden Egg," said:

"Dr. Goldhaft has created an establishment that sends its product to virtually every corner of the world and that affects for the better the daily habits of the human race."

A delegate to the World Poultry Congress in 1952 and 1956, Dr. Goldhaft also belonged to the American and New Jersey Veterinary Medical Associations, the Animal Health Institute, the National Academy of Sciences, the U.S. Livestock Sanitary Association and the World's Poultry Science Association.

Among survivors is a son, Dr. Tevis M. Goldhaft.

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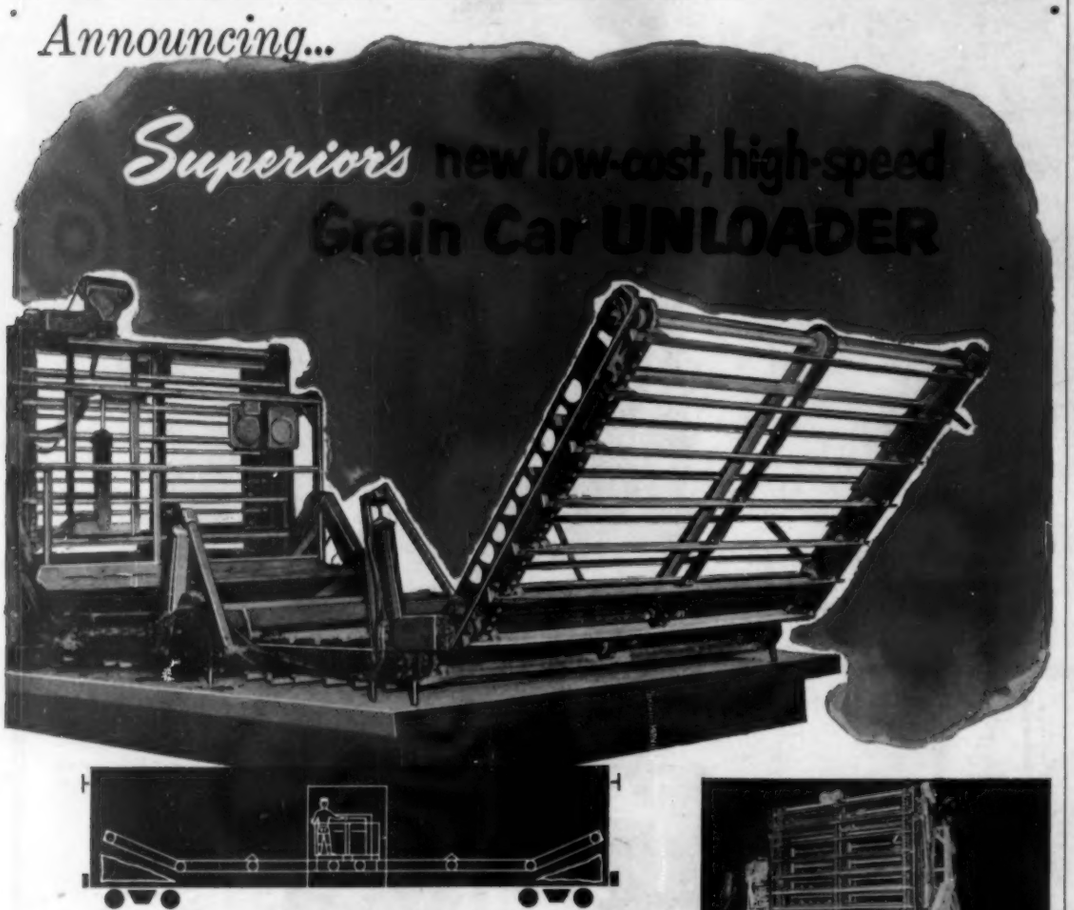

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Benefits of Pelleting Roughage Rations

By Russell Jahn and L. D. Kamstra
South Dakota State College

EDITOR'S NOTE: The accompanying article is from South Dakota Farm and Home Research, published by the South Dakota State College Agricultural Experiment Station, Brookings. Russell Jahn is a graduate assistant and Dr. L. D. Kamstra is an associate animal husbandman.

Pelleting rations appears to have a greater benefit than the mere improvement of the storage and handling of roughage feeds. It has been demonstrated, among ather things, that greater feed intake and more feed efficiency with better gains occur with pelleted rations. The greater feed intake must result from faster passage through the digestive tract and/or better digestibility, as reported by California workers.

An effort is being made at this station to explain the reason for greater digestibility of pelleted feeds, especially the greater benefit for those pelleted rations high in poor quality roughage. Roughages were pelleted at different temperatures and pressures to determine if the conditions of pelleting itself changed the physical or chemical structure of the cellulose in the roughage. It is thought that cellulose could change from crystalline structure to a more digestible amorphous state. Also, the long chains of cellulose units could be broken by the heat and pressure, leaving segments more vulnerable to bacterial attack within the rumen.

In initial studies using in vitro (artificial rumen) values, the digestion of succulent (first stage growth) forages showed the least effect of pelleting. The digestibility of late stage forages, however, was improved by pelleting. The chart summarizes results of the effects of different pressures and temperatures on early and late stage forages.

You can see that digestibility of the first stage forages shows from a slight increase to a reduced digestibility by the action of pelleting. This is believed to be due to the already high digestibility of the unpelleted plant. Digestibility of the third stage forages is, at certain pressures and temperatures, greatly improved by pelleting. To date there is no definite pattern among all forages but it would appear that a low temperature with a moderate to high pressure or a low pressure at a high temperature produced the best results.

Percent of Plant Material Digested by Laboratory Rumen (in vitro)

Plant material	Unpelleted control	Pelleting temperature and pressure: 120 °F, 4,000 lb./sq. in.	120 °F, 10,000 lb./sq. in.	120 °F, 16,000 lb./sq. in.	300 °F, 4,000 lb./sq. in.	300 °F, 10,000 lb./sq. in.	300 °F, 16,000 lb./sq. in.
First stage†—							
Alf-brome	73.2	63.8	71.9	73.1	72.7	77.2*	74.5*
Western wheat grass	72.9	69.3	74.8*	75.1*	72.6	73.6*	69.0
Little blue stem grass	63.0	65.7*	66.7*	66.8*	65.6*	66.9*	65.7*
Third stage‡—							
Alf-brome	56.6	63.0*	67.1*	66.2*	61.8*	54.5	53.8
Western wheat grass	57.6	61.1*	57.7*	59.1*	60.0*	62.4*	61.8*
Little blue stem grass	54.2	63.9*	59.0*	60.8*	58.0*	58.3*	57.3*

*More digestible than unpelleted control.
†First stage is the high quality, succulent, young forage.
‡Third stage is the late season, dry, stemmy, uncut forage.

Elected to Hi-5 Club

TOLEDO, OHIO — A. L. Mack, Statesville, N.C., and Willard Drackley, Tracy, Minn., have been elected to the Hi-5 Club of National Ideal Co., Toledo.

Mr. Mack is district sales manager for the company in the south Atlantic states and Mr. Drackley is district sales manager for the west north central states. National Ideal manufactures the Premier line of poultry and stock farm equipment and also is a national sales headquarters for Sunshine Peat Moss Litter and Hygeno Litter.

Membership in the Hi-5 Club is awarded annually to the five district managers who attain the highest sales volume for the year. The company has 28 district managers throughout the U.S. and Canada.

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Norman ("Shorty") Peterson, Havelock, Iowa, feeds out about 1200 cattle a year. "We started feeding supplement with Stilbosol as soon as it became available in '54," Peterson explained. "We just won't feed without it. Why, we've had steers to gain as much as 3.68 pounds per day for their entire time on our farm. Of course, we buy cattle with built-in gainability." This was Mr. Peterson's tip-of-the-hat to the Drayton Ranch at Valentine, Nebraska, which supplied him with the calves that went on to capture first place in the heavyweight Angus division.

Again...Stilbosol-fed carlots rank high at International

Peterson and Brechler load awarded first prize in heavyweight Angus group at Chicago's International Livestock Exposition. Heavy Herefords take second. Heavy Angus and light Herefords place third in their classifications.

Wessel is a familiar name at the International. A veteran Stilbosol feeder, Winston Wessel (dark jacket) has taken home many honors with his fine fat cattle since 1940. This year, in partnership with his neighbor, Roland Kroymann (far right), he added third prize in the heavyweight Angus class to his list of winners.

Maurice Crawford of Wellman, Iowa, fed and groomed his Stilbosol-fed steers to second prize in the heavyweight Hereford group. He was a mighty happy man as he said, "Sure can't complain of the results on this load of steers!"

Harold Alfredson from Big Rock, Illinois, placed third in the light-weight Hereford class. Harold does an outstanding job with Stilbosol supplements and feedlot mechanization to increase gains and cut costs of building beef.

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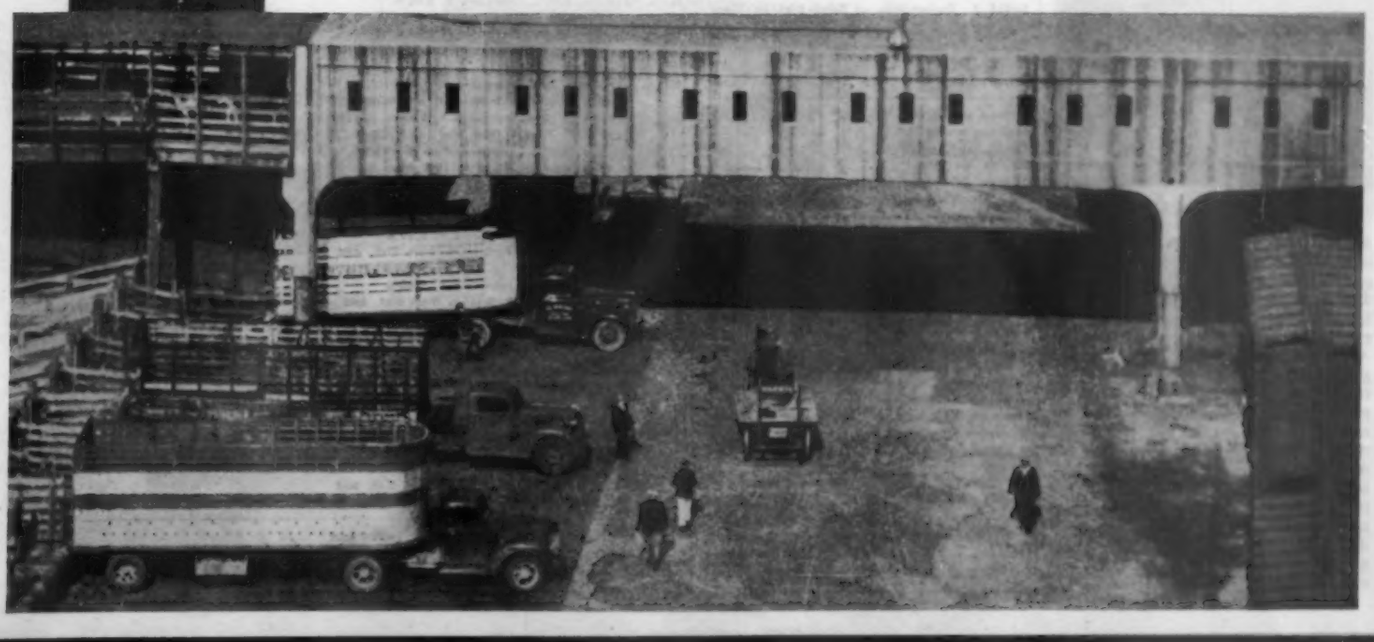


Soft Phosphate as a Potentiating Agent for Broad-Spectrum Antibiotics

By Dr. Arthur A. Camp
Texas Agricultural Experiment Station

INTRODUCTION—Peterson in 1958 reported that the addition of terephthalic acid at the .5% level to chick diets containing Aureomycin resulted in a blood sera concentration of the antibiotic which was approximately four times that noted when the same level of Aureomycin was fed alone. Later in 1958, Peterson, et al, reported that the clinical effectiveness of both Terramycin and erythromycin could be doubled by feeding them in combination with terephthalic acid (TPA) at the .5% level. Price, et al, obtained results indicating that chick serum levels of Terramycin could be significantly reduced by simultaneous administration of calcium chloride.

These same authors further noted that the concurrent administration of calcium-binding agents, such as certain phosphates and citric acid, tended to overcome the depression in absorption produced by calcium. Price, et al, obtained results indicating that lowering the dietary calcium level in chick diets brought about an increase in Terramycin blood levels which was approximately twice that noted when the chick diets contained "normal" levels of calcium. Price, et al, showed that TPA markedly increased serum Terramycin levels in poultry by a mode of action apparently unrelated to certain depression of antibiotic absorption.

The effect of TPA is described in a recent patent of Kent and Peterson (1958). Watts reported that hens fed equivalent levels of calcium (1.7%) from either soft phosphate or dicalcium phosphate, retained approximately half as much of the calcium when fed soft phosphate as when fed dicalcium phosphate. The hens retained 28% and 53% respectively of the calcium ingested from soft phosphate and dicalcium phosphate. This suggested that soft phosphate might be employed as a potentiating agent for the broad-spectrum antibiotics.

Several excellent reviews concerning soft phosphate in poultry diets have been presented. (Almquist 1954, Motzok et al 1956, Gardner et al 1958.) Therefore, it is felt that another review by this author would add little to the value or meaning of this article.

Dr. Arthur A. Camp

AUTHOR—Dr. Camp is superintendent of the Texas Agricultural Experiment Station No. 21 at Gonzales, Texas. He received his bachelor of science degree in agriculture in August, 1951, from the University of Arkansas. In August, 1952, he was granted the master of science degree from the same university with a major in animal nutrition. In September, 1952, he moved to Texas A&M College and began work on his doctorate degree. In October, 1953, he accepted an appointment as superintendent of the experiment station at Gonzales. He received the Ph.D. degree in January, 1958, majoring in poultry science and minoring in biochemistry and organic chemistry.

EXPERIMENTAL PROCEDURE—Two floor-pen tests and two battery tests involving approximately 2,700 broiler-type chicks were carried out in an effort to determine the effect on the Terramycin blood level of the chick caused by substituting gradient levels of soft phosphate, on an equi-phosphorus basis, for dicalcium phosphate in the diet of the chick.

In each of the two floor-pen investigations, 1,200 day-old male White Vantress x Nichols 108 chicks were purchased from local hatcheries and assorted at random among each of 12 pens equipped with butane brooders, automatic watering devices, peanut hull litter and lights. Each bird was allowed 1 sq. ft. of floor space, ½ in. of watering space, approximately 2½ in. of feeder space, and all-night lights throughout the test periods of eight weeks.

The birds were vaccinated against Newcastle disease and infectious bronchitis and debeaked at 7 days of age. The experimental diet and tap water were supplied ad libitum. The birds were weighed in groups at 4 weeks of age and individually at 8 weeks of age, when the tests were terminated. Feed consumption and mortality data were obtained. Furthermore, when the tests were terminated blood samples were taken and analyzed for calcium, phosphorus and Terramycin. Calcium was determined according to the method of Rehell. Inorganic phosphorus and acid soluble phosphorus was determined according to Fiske and Subbarow. Terramycin blood levels were determined according to Grove and Randall and the test organism employed was Bacillus cereus var. mycoides ATCC No. 9634.

The basal diets employed in floor-pen tests No. 1 and 2 are presented in Tables 1 and 2 respectively. It should be noted that the basal diets contributed approximately .115% inorganic phosphorus to the diet. The inorganic phosphorus level fed in the experimental diets was .60%. This difference (.485%) was made up of either dicalcium phosphate or a combination of dicalcium phosphate and soft phosphate.

Furthermore, the levels of calcium

(Turn to PHOSPHATE, page 76)

TABLE 1. Composition of Basal Diet for Floor Pen Test No. 1

Ingredients	% of Total Diet Starter	Finisher
Ground yellow corn	49.30	53.30
Soybean meal (50%)	36.00	25.00
Corn gluten meal	2.50	7.50
Alfalfa leaf meal	1.00	3.00
Manganese sulfate	0.03	0.03
TM-10 (contained 10 gm./lb. Terramycin)	1.00	1.00
Vitamin mix*	1.00	1.00
Poultry oil	5.00	5.00
Total**	95.83	95.83
Calculated % protein	23.77	20.51
Calculated C/P ratio	42:1	49:1
Calculated % calcium	0.140	0.151
Calculated % total phosphorus	0.382	0.336
Calculated % inorganic phosphorus	0.115	0.101

*Contributed the following to each lb. of finished feed: Riboflavin, 2 mg.; calcium pantothenate, 5 mg.; niacin, 12.5 mg.; choline chloride, 282.5 mg.; vitamin B_{12}, 3 mcg.; methionine, 227 mg.; vitamin A, 2,270 U.S.P.U.; vitamin D_3, 681 I.C.U.; vitamin E, 2.5 I.U.; vitamin K, 1 mg.; trithiadol, 454 mg.

**The remaining 4.17% of the diet was made up of a combination of either dicalcium phosphate and ground limestone or combination of dicalcium phosphate, soft phosphate, and ground limestone.

TABLE 2. Composition of Basal Diet for Floor Pen Test No. 2

Ingredients	% of Total Diet Starter	Finisher
Ground yellow corn	45.30	49.80
Soybean meal (50%)	36.00	24.50
Corn gluten meal	2.50	7.50
Alfalfa leaf meal	1.00	3.00
Vitamin mix*	1.00	1.00
TM 10 (contained 10 gm./lb. Terramycin)	2.00	2.00
Manganese sulfate	0.03	0.03
Dried whey	2.50	2.50
Omafac	0.50	0.50
Poultry oil	5.00	5.00
Total**	95.83	95.83
Calculated % protein	23.62	20.90
Calculated C/P ratio	42:1	48:1
Calculated % calcium	0.141	0.170
Calculated total phosphorus	0.386	0.385
Calculated % inorganic phosphorus	0.119	0.119

*Vitamin mix same as shown in Table 1.

**The remaining 4.17% of the diet was made up of a combination of either dicalcium phosphate and ground limestone or a combination of dicalcium phosphate, soft phosphate and ground limestone.

TABLE 3. Average Final (8 Weeks) Weights, Feed Conversion, Range or Level of Terramycin in Blood and Number of Birds Out of 10 Showing Detectable Terramycin Blood Levels in Floor Pen Test No. 1

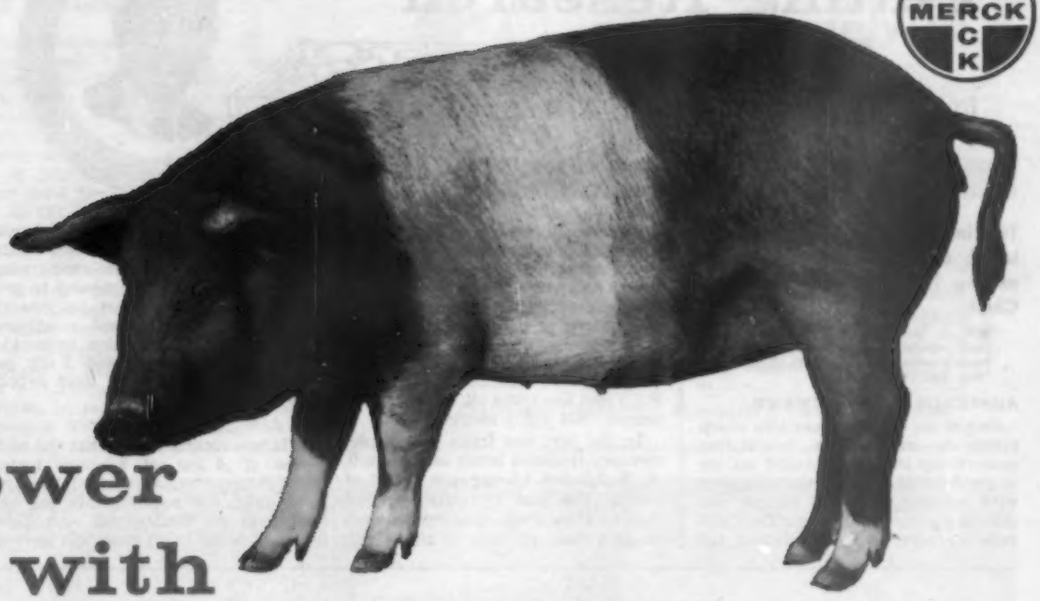
Lot No.	Treatment*	Av. Weight	Feed Conv.	Range or Level** of Terr. in Blood	No. of Birds Showing Detectable Levels
38	Calcium, 1.30%, inorganic P, 0.60% (0.485% from DCP and 0.115% from diet)	1,266	1.92	0	0
39	Calcium, 1.30%, inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP)	1,243	1.84	.017–.077	2
40	Calcium, 1.30%, inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% SP)	1,213	1.79	.025–.077	3
41	Calcium, 1.30%, inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% SP)	1,235	2.10	.035–.081	4
42	Calcium, 1.00%, inorganic P, 0.60% (0.48% from DCP and 0.115% from diet)	1,239	1.84	0	0
43	Calcium, 1.00%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP)	1,230	1.86	.008–.075	1
44	Calcium, 1.00%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% from SP)	1,226	1.92	.017–.077	2
45	Calcium, 1.00%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% from SP)	1,190	1.79	.066–.089	7
46	Calcium, 1.00%; inorganic P, 0.60% (0.485% from DCP, and 0.115% from diet), 0.40% TPA	1,230	1.86	.068–.095	9
47	Calcium, 1.00%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP), 0.40% TPA	1,219	1.86	.115	10
48	Calcium, 1.00%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% from SP), 0.40% TPA	1,193	1.91	.194	10
49	Calcium, 1.00%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% from SP), 0.40% TPA	1,210	1.78	.220	10

*All lots received 200 gm. per ton Terramycin.
**Range or level of Terramycin in blood is expressed as mcg. per ml. of blood.
DCP—Dicalcium phosphate. SP—Soft phosphate.

TABLE 4. The Effect of Substituting Various Levels of Soft Phosphate, on an Equi-Phosphorus Basis, for Dicalcium Phosphate on Serum Calcium Levels in Chicks Fed Experimental Diets for an Eight-Week Period (Floor Pen Test No. 1)

Lot No.	Treatment	No. of Blood Samples Taken	Average Serum Calcium Expressed as mg./100 ml.
38	Calcium, 1.30%; inorganic P, 0.60% (0.48% from DCP and 0.115% from diet)	10	8.39
39	Calcium, 1.30%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP)	10	8.69
40	Calcium, 1.30%, inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% SP)	10	10.07
41	Calcium, 1.30%, inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% SP)	10	10.48
42	Calcium, 1.00%; inorganic P, 0.60% (0.485% from DCP and 0.115% from diet)	10	10.11
43	Calcium, 1.00%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP)	10	9.88
44	Calcium, 1.00%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% from SP)	10	8.29
45	Calcium, 1.00%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% from SP)	10	8.63
46	Calcium, 1.00%; inorganic P, 0.60% (0.485% from DCP and 0.115% from diet), 0.40% TPA	10	9.63
47	Calcium, 1.00%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP), 0.40% TPA	10	9.66
48	Calcium, 1.00%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% from SP), 0.40% TPA	10	10.58
49	Calcium, 1.00%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% from SP), 0.40% TPA	10	9.60

*All lots received 200 gm. per ton Terramycin.
**Range or level of Terramycin in blood is expressed as mcg. per ml. of blood.
DCP—Dicalcium phosphate. SP—Soft phosphate.



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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

The Influence of Dietary Energy Level, Energy Source and Breed on the Thiamine Requirement of Chicks

● P. A. Thornton and J. V. Shutze, Colorado Agricultural Experiment Station; Poultry Science, Vol. 39, No. 1, January, 1960, pp. 192-199.

ABSTRACT AND COMMENT

One of the constant questions which comes to mind when formulating modern-day chick and broiler rations is the level of fortification necessary with varying levels of energy and differing sources of energy. The Colorado workers have investigated the thiamine requirements of New Hampshire X Delaware (first trial) or Grey Leghorn X Leghorn (second and third trials) chicks in three different 28-day experiments using semipurified rations at various thiamine and energy levels. Both corn oil and sucrose diets were used at both high (corn oil, 1022 P.E., and sucrose, 1011 P.E.) and low (corn oil, 827 P.E., and sucrose, 824 P.E.) energy levels.

In the first two trials the supplementary thiamine levels used were 0, .4, .8, 1.2 and 1.6 mg. per pound of ration. The first two trials showed that approximately equal results were secured from all birds at the .4 mg. level of thiamine and therefore it was necessary to use lower levels in the third experiment to determine what level of thiamine was needed to protect the chicks against polyneuritis under the experimental conditions. Thus, levels of thiamine hydrochloride used were .1, .2, and .3 mg. per pound of ration in the third experiment.

Indications

It was clearly shown that the addition of .4 mg. of thiamine hydrochloride per pound of feed appeared to meet the requirements for this vitamin in broiler-type and light-breed chicks in all cases. An increase in energy level from either source of energy did not appear to increase the thiamine requirement beyond this level. This was true despite the fact that greater growth rate and feed efficiency were obtained at both high and low energy levels when corn oil served as the energy source.

Increasing the energy level with sucrose in the absence of supplemental thiamine hydrochloride was observed to increase the deficiency stress. On the other hand, when corn oil was used to increase the energy level in the absence of thiamine, a thiamine sparing effect was observed. It also appeared that the light breed birds may have had a somewhat higher thiamine requirement than the heavies.

Timely and Worth Noting

Today, unglamorous fields such as management procedures are often neglected in preference to research on growth factors, feed additives and and in other nutrition areas. Nevertheless, practical management topics are very important basic problems facing commercial producers of poultry. Low hatchability of turkey hatching eggs is one of the more important of these problems today.

It is therefore somewhat refreshing to see that the Washington State University poultry group has investigated some of the practical breeding and management aspects of turkey egg production (Poultry Science, January, 1960, pp. 82-92). Results of a four year study based upon 80,000 eggs from Broad Breasted Bronze and Washington State Whites indicated the following facts:

(1) In general, eggs laid between 5 p.m. and 7:30 p.m. had higher fertility and hatchability than those laid before 5 p.m.

(2) Eggs laid in multiple clutches showed higher levels of fertility and and hatchability in most instances than those laid in single egg clutches.

(3) A poorer-hatching strain of turkeys showed a much higher level of abnormal embryos from single clutch eggs.

(4) Eggs laid in nests showed considerably higher hatchability and lower apparent infertility than floor eggs.

(5) The difference between nest and floor eggs could not be explained by laying of "premature" eggs on the floor since embryo development was considered to be equal to the nest eggs, at time of laying.

(6) The workers postulated that a likely explanation for the superiority of nest eggs may be that such eggs remain warmer for a longer time, thus permitting additional embryonic development. A nest egg, in a sense, is subjected to pre-incubation warming, according to the researchers, while the hen remains in the nest. However, this interesting observation is as yet untested, and awaits further research to ascertain its validity.

It seems entirely conceivable that selection of breeder turkey hens along points outlined above would improve hatchability of strains and partly solve a difficult problem.

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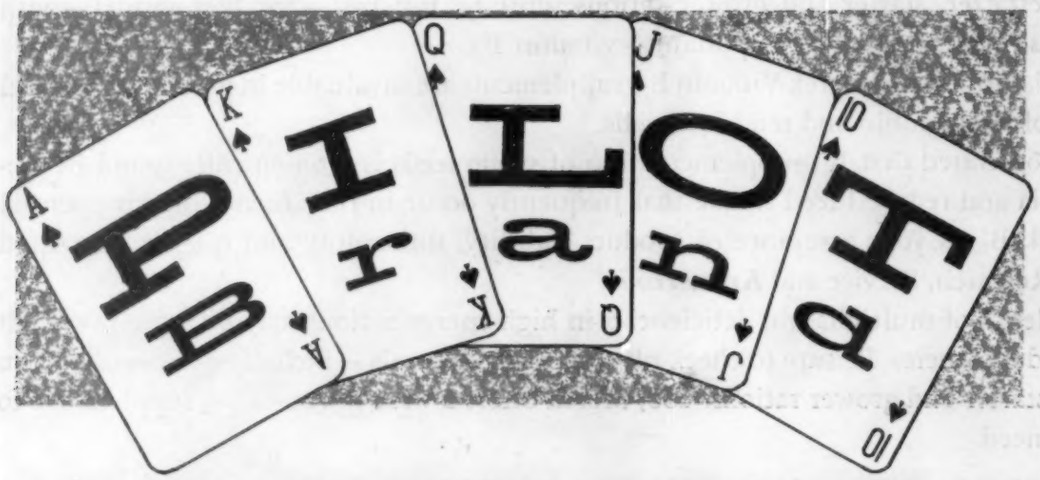

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Feed Men's Nutrition Questions Answered at Virginia Conference

ROANOKE, VA.—Do you have a particular question on poultry, dairy or livestock feeding? Possibly it was answered at the 1960 Virginia Feed Convention and Nutrition Conference in Roanoke. At any rate, the nearly 200 persons present for the conference had a good many of their questions answered by conference speakers and other panel members.

Evening workshops, during which feed men fired questions at panels of experts, were a special feature of the conference, sponsored by the Virginia State Feed Assn. and Virginia Polytechnic Institute.

There were three workshop sessions—(1) poultry feeding; (2) dairy, and (3) swine, beef cattle and sheep. Following are summaries of the question and answer sessions:

POULTRY SECTION—Dr. C. E. Howes of VPI moderated the poultry discussion. Panelists were Dr. W. R. Luckham, Dr. H. S. Siegel, Dr. E. L. Wisman, all of VPI; Dr. E. P. Singsen, University of Connecticut; Dr. J. M. Snyder, Beacon Milling Co., Cayuga, N.Y., and Dr. R. J. Krueger, Lindsey-Robinson & Co., Roanoke.

Here are some of the questions and answers and comments:

Q. Do you think that poultrymen will be the first to take action to control the environment of birds, thus compensating for outside temperature variations, or will feed manufacturers first take action by adjusting feed formulas to help birds withstand seasonal temperature change?

A. (Snyder) I think feed manufacturers will be the first to take significant strides in helping the birds to do their job better. Feed formulation has been changed seasonally for some time. Higher energy in winter, lower in summer; protein and vitamins, therefore, higher in summer. We at Beacon for a number of years have made seasonal formulation changes.

Q. Under controlled feeding does the female grow faster?

A. (Snyder) All breeding stocks are selected for early rapid growth. Restricted feed is opposite in this bred-in character.

Q. Why is it more important to restrict fall-hatched replacement pullets than it is to restrict during other seasons?

A. (Singsen) Fall-hatched pullets mature during periods of lengthening days. This stimulates early egg production. Feed restriction will help to cut back on this early-maturity tendency.

Q. For commercial layers, is egg quality affected by restricted feed?

A. (Singsen) There is very little work to answer this. Studies in Canada show only a slight indication of any effect.

Q. Is liquid feeding practical?

A. (Snyder) No. The big reason is that water-soluble nutrients are much more expensive than conventional sources of ingredients. Furthermore, a practical and economical method of getting the water-soluble nutrients to the birds has not yet been devised.

Q. Will a high iron content of water cause birds to produce poorly?

A. (Panel) No reports are known of adverse effects. However, it is known that a high sulfite water will cause loose droppings.

Q. Are there any experimental data showing that a third feed is justified for broilers?

A. (Snyder) Work conducted at Illinois in 1952 by Goffi showed use of a third feed to be entirely justifiable. In many areas, we are now using a third broiler feed, with a

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wide calorie-protein ratio, unmedicated, of course, for the last five days to a week before selling broilers.

Q. What are the minimal practical levels of calcium and phosphorus in broiler diets?

A. (Singsen) Good results have been obtained with 0.7% calcium and 0.4% inorganic phosphorus.

Q. Is it true that a high level of calcium in the diet may interact with fat and tie it up so that it is not well utilized?

A. (Singsen) Yes, this is true, but the extent of the tie-up is not known.

Q. At what age should broilers be marketed?

A. (Luckham) The philosophy has been to run more birds through a house, but our research indicates that economic results are better if the birds are fed at least to 10 weeks of age. Maximum profit over a year is obtained by carrying the birds to 10 weeks; costs per pound are lower. Consumer acceptance probably would be all right on birds grown to 10 weeks.

(Snyder) Time is money. Perhaps equipment can be utilized better if birds are put through faster. Less feed would be handled.

Q. Is there any advantage of range rearing turkeys over confinement rearing?

A. (Singsen) Most figures show costs are about the same. Feed saving on range is almost nil. A summary of many experiments shows labor cost is greater on range, which offsets lower housing cost. Some results show better average quality of birds grown on range. Diseases can be prevented and/or controlled in each system.

Q. In linear programming, how many storage places are needed on a computer?

A. (Snyder) We feel a computer should provide for 40 restrictions or storage places in ration formulation. You are limited to 30 on an IBM 650 computer. The 704 does a nice job.

Q. Can we use all-vegetable diets for broilers?

A. (Wisman) This can be done nutritionally, but it may not be practical.

(Snyder) In Maryland work, feed efficiency was the same, but weights were slightly better with unidentified factor sources. Our data agree. All-vegetable diets can be used, but the answer is economic; it depends on ingredient costs. Results are more variable. (Singsen) Agree that results are more variable.

Q. Most pullets lose weight as they come to peak production. Is this harmful?

A. (Singsen) We don't want to see a loss of body weight in layers. Body weight of pullets should increase slowly with production increase. Under many conditions, 940-950 Calories of productive energy have been inadequate to increase body weight, but 980-1,000 have been satisfactory. More energy should be fed in the winter to maintain weight and keep up egg production.

Q. What about hormones for layers?

A. (Snyder) We have done work with a hormone which, under our conditions, improves egg production. It appears to be primarily through preventing broodiness.

Q. How much zinc in turkey rations?

A. (Singsen) Twenty parts per million are enough to add to turkey rations. Several different salts of zinc can be used.

Q. Will you please tell us about your work at Connecticut with restricted feeding of layers?

A. (Singsen) In work just completed with sex links, no significant advantage was found in controlling feed intake. Contrary to the earlier work with heavy broiler breeders, we did not find the sex links to suffer a high mortality rate when full fed on a diet containing more than 1,000 Calories of productive energy per pound.

There was not enough difference in efficiency in control feeding to pay for it.

With high production strains, high energy is needed to maintain weight and egg production, which is different from heavy birds that tend to get fat.

In recent work with heavy broiler breeder layers, we have deleted the feeding of the birds for 24 hours every third day, every fifth day and every seventh day. The birds ate about the same amount of feed. Production was not altered significantly. There was a slight increase in hatchability as feeding time was decreased.

(In all-mash fed pens in Connecticut work, 1 lb. of wheat per 100 birds is scattered in order to keep the birds working better.)

Q. Are pellets or crumbles for light birds justified?

A. One answer was that they might be in the winter in order to get greater feed intake. Another said that increasing feed intake is a real thing, that at least some pellets are worthwhile.

DAIRY SECTION—Moderator of the dairy workshop was Dr. G. C. Graf of VPI. Panelists were Dr. W. A. Hardison, M. F. Ellmore, Dr. R. W. Engel, all of VPI; Dr. Eric Swanson, University of Tennessee; Dr. J. K. Loosli, Cornell University; Garland Benton, Southern States Cooperative; Dr. G. C. Wallis, Standard Brands, Inc.

Some of the questions and answers follow:

Q. Does pelleting increase the nutritive value of feeds?

A. No. Not for dairy cows. Pelleting or grinding of hay may depress fat test. This effect will vary between cows.

Q. Why do results of feeding pelleted hay to beef cattle differ from results with dairy cows?

A. Reasons not entirely clear.

(Turn to CONFERENCE, page 73)

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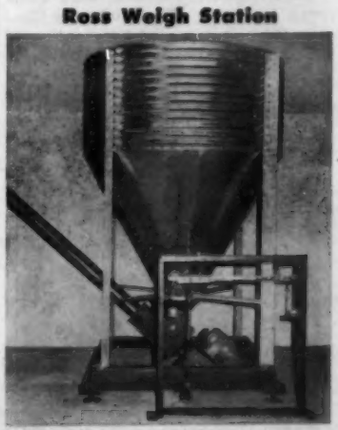

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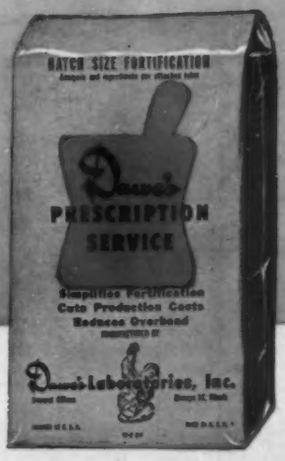

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FOREIGN OFFICES:

New Mill in Iowa Uses Punch Cards For Selecting and Weighing Ingredients

By Al P. Nelson
Feedstuffs Special Writer

A completely automatic electronic IBM punch card mill, with a rated capacity of 500 tons in a 24-hour day, is now in operation at Bancroft, Iowa. Welp's Feed Mill, one of the Midwest's newest and most modern feed manufacturing plants, started operation in late November. The plant is presently turning out a complete line of poultry and livestock feeds.

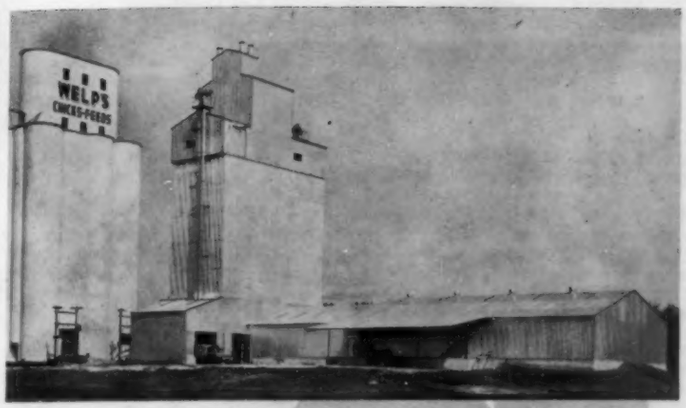
The firm's management believes the automatic mill "is ample proof that a progressive, well managed independent business can survive in this day of integration, mergers and bigness in general." J. H. Welp, founder and general manager, says, "With a new high capacity mill, plenty of warehouse storage and a fine dealer organization, we look to the future with confidence."

The new Welp mill is an imposing structure in its home town of 900 population. It towers 128 ft. into the air. The mill and warehouse area measure approximately 237 ft. in length.

The mill proper and attached warehouse space are all of Butler construction. The structural steel used in the part of the unit which houses the mixing operation and overhead bulk bins was provided by St. Paul Foundry Manufacturing Co. A total of more than 200 tons of structural steel went into the construction of the new mill.

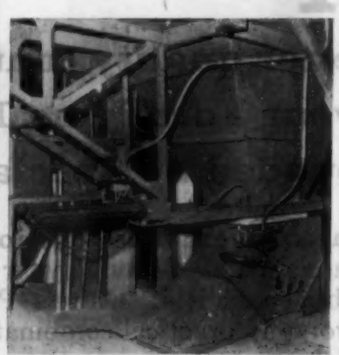
"Select-O-Weigh" System

Designed and built from beginning to end by Welp personnel under Welp supervision, the new mill is guided by a Richardson "Select-O-Weigh" IBM system. A total of 25 dry ingredients and three liquids can be automatically selected and weighed for incorporating into each of the more than 70 Welp feed formulations now on the market. Mr. Welp described the mill as "completely automatic with all feed formulas set up on IBM punch cards."



SIDE VIEW—More than 200 tons of structural steel went into the construction of this new Welp's feed mill at Bancroft, Iowa. The mill and warehouse area is about 237 ft. long.

CONTROL PANEL—James Welp, mill superintendent, watches scale dial (right) beside Richardson "Select-O-Weigh" electronic control panel. Twenty-five dry ingredients and three liquids can be automatically selected and weighed for incorporating into each of the more than 70 Welp feed formulations.



WEIGH HOPPER—Solid ingredients are delivered to this weigh hopper from overhead screw feeders. Discharging is controlled by an air-operated slide gate, and a diverter plate below the hopper scale permits delivery alternately or consecutively to two 2-ton mixers beneath the floor.

The system consists of a two-ton capacity weigh hopper, a remote control panel and a 5,000 lb. by 5 lb. capacity dial scale with "Weightronic Controls" for punched card reader. Included with the panel is a motor starter center for 25 starters.

Solid ingredients are delivered to the weigh hopper from overhead screw feeders which are started and stopped by the control panel. Discharge is by air-operated slide gate, and a diverter plate below the hopper scale permits delivery alternately or consecutively to two 2-ton Strong-Scott horizontal mixers.

The three liquids are also controlled from the panel, being pumped and sprayed directly into the mixers. Amounts of liquids are regulated by Microflex stop counters. Thus, blending, mixing and delivery of mixed feed are virtually continuous. Ultimate capacity is limited only by the time required for blending the different ingredients.

Complete Automation

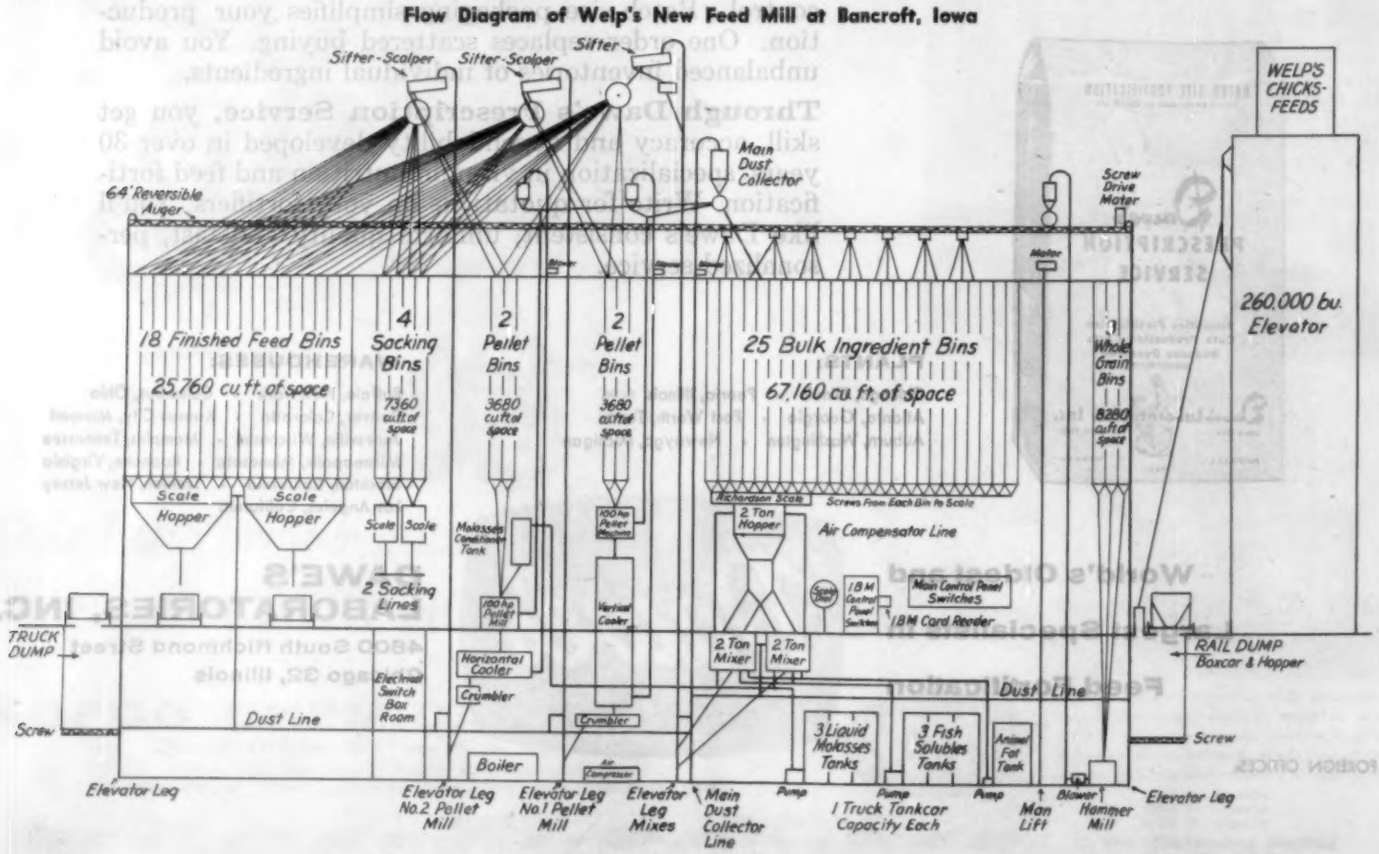
Different formulas are punched into IBM cards which are inserted into the Richardson punched card reader (PCR). Operation and control are then fully automatic, although the equipment can be stopped completely or halted momentarily to test the weighing of any ingredient or to alter the mixing cycle time.

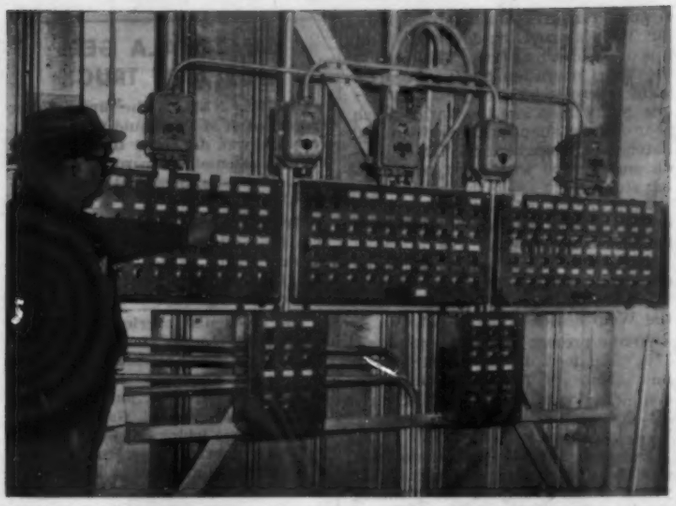
The system starts to function immediately when the operator inserts the card into the PCR unit, pulls a lever to lock it in place and presses a start button. Indicating lights at the top of the control panel then show the feeding of each ingredient. Individual compensators are arranged for each separate ingredient so that accuracy of weighing is always within one tenth of 1%.

Other signal lights indicate various conditions and stages of cycling so that it is possible for the operator to see at a glance the exact status of any batch. Where more than one batch is desired, an electric stop counter is provided to control delivery of the number of batches of the same formula.

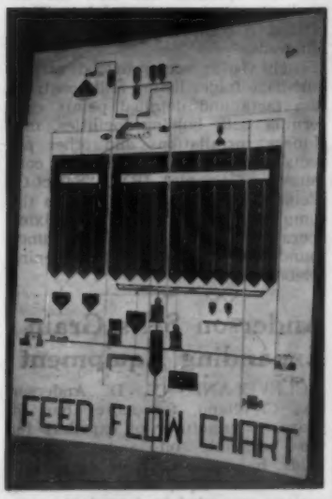
In addition to the card reader for the 25 cycling lights, the face of the control panel includes feeder compensation adjustments; controls for two mixers; manual-automatic selection switch; main power selection switch, and push buttons for manual discharge, main batch start and manual feed which operates in conjunction with a feeder selection tap switch. Pilot lights include weight selector cycling, off-tare, scale dis-

Flow Diagram of Welp's New Feed Mill at Bancroft, Iowa





DISTRIBUTION PANEL—Arthur Welp, who supervised construction of new electronic feed mill at Bancroft, Iowa, operates feed distribution panel.



FLOW CHART—This feed flow chart was displayed during open house of Welp's Feed Mill to show visitors how feed flows through the mill. The chart now stands in the warehouse so that new customers can see it.

SACK STACKS—Towmotor fork lift is used to stack palleted bagged feeds in warehouse before being shipped to 120 Welp dealers.

charging, feeder running, main power and automatic and manual selection.

Following the mixing cycle, air gates automatically dump the mixed feed into elevator legs that in turn elevate into large holding bins over the two pellet machines.

85% of Feed in Pellets

Eighty-five per cent of Welp's electronically mixed feeds are produced in the form of pellets. To achieve this large pellet output, two 100 h.p. California pellet mills, each with a capacity of 8-14 tons per hour have been installed. Each pellet mill has its own elevator system, sifter, cooler, dust collector and "particlizer" which permits manufacturing two different feeds at the same time, if this is desired.

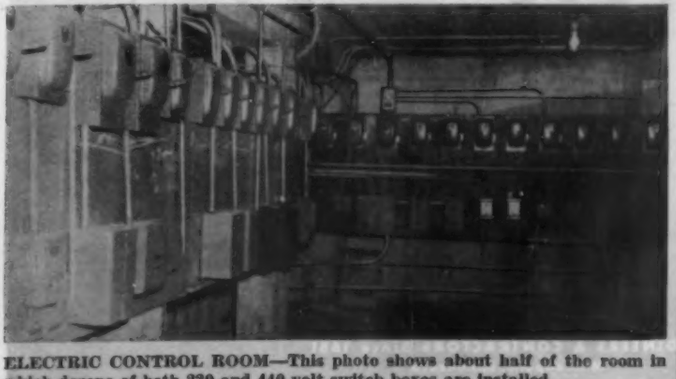
Two California pellet coolers are used—one vertical and one horizontal cooler. The firm is currently making 5/32 and 3/16" pellets. Approximately 50% of its pellet production is bagged. The remainder is delivered direct to the farmer in bulk trucks.

If the feed is to be sold as pellets, it goes through the pelleting machine and cooler and is again elevated and dumped into either the sacking bins over the two 50-lb. Richardson sacking machines or it is dumped into bulk holding bins over the bulk loadout driveway for customer pickup. The Welp operation has storage bins for 600 tons of commercially mixed bulk feeds.

Soft Pellet, Too

In addition to the regular pelleted feeds for hogs, cattle and poultry, Welp's has been developing a soft cattle pellet with a 30% molasses content. This soft pellet is being produced in a dual speed California pellet machine which also produces a hard pellet.

Ingredients for incorporating into Welp feed formulations are brought in by truck and rail. Ingredients from either slide bottom, flatbed trucks or from hopper rail cars are dumped into unloading pits. They are then elevated to the mill headhouse where they are distributed to the respective bulk holding bins through a series of



ELECTRIC CONTROL ROOM—This photo shows about half of the room in which dozens of both 220 and 440 volt switch boxes are installed.

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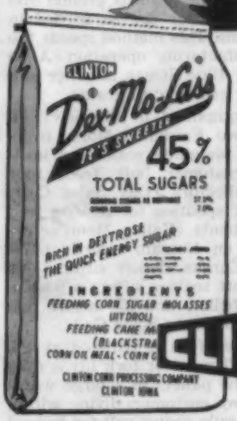

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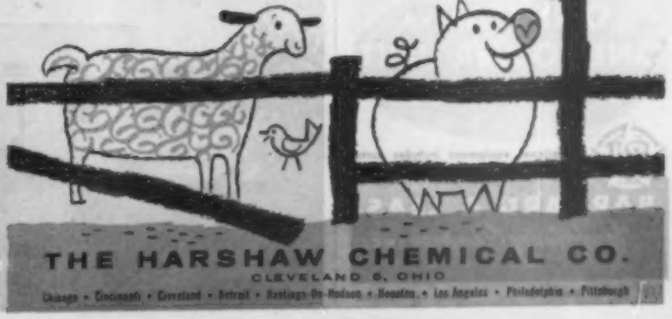

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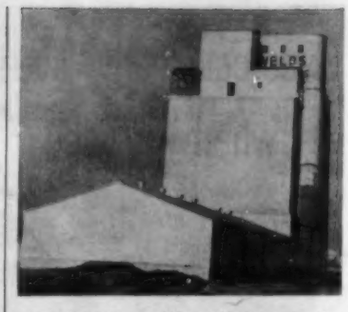


END VIEW—Jutting 128 ft. into the air is the new Welp's feed mill at Bancroft, Iowa.

five Hayes-Stolz distributor heads. A 64-ft. reversible horizontal auger moves the ingredients to any of the 25 bulk holding bins.

Adjacent to Welp's new mill is the company's 260,000-bu. grain elevator. Grains used in the manufacture of Welp's feeds are spouted from the elevator to the bulk holding bins in the mill. All the grain is ground and then "bulked" for use as needed in Welp rations. This method speeds the feed manufacturing operation. A 50 h.p. Prater Blue Streak hammer mill is used for grinding all grains.

Other equipment in the new mill includes two Fairbanks-Morse overhead bulk weighing scales for loading out customer bulk feed; four cyclone collectors (Day Sales Co.); 2,800 ft. of spouting for moving feed and ingredients (Valley Manufacturing Co.); an Ehrsam electric manlift; two Eureka shaker sifters; one Strong-Scott scalper sifter; a 92 h.p. Kewanee boiler, and 25 augers and motors (Minnesota Scale Co.).

All bagged feed is palleted at the mill and a Towmotor fork lift is used to stack the pallets in a large warehouse. Many customers living within a 10 to 25-mile radius call for bagged and bulk feed at the mill.

Supervising the construction of Welp's electronic mill was Arthur C. Welp, manager of the Welp's hatchery operation and brother of the general manager. James F. Welp, one of J. F. Welp's sons, is mill superintendent and Donald J. Welp, another son, is feed sales manager.

Hatchery Opened in 1929

J. H. Welp entered the agricultural marketing field in 1929 when he opened a small hatchery in Bancroft. This enterprise grew rapidly. Today the Welp firm hatches between 3 and 4 million chicks annually. In 1937, Mr. Welp started the development of a poultry breeding farm. This part of the Welp operation has grown to a point where 46,000 pedigree breeders are maintained on the farm. Each year Welp's supplies more than 400 hatcheries throughout the U.S., Canada and Europe with egg-type breeding stock.

In order to provide feed for his own breeding farm, Mr. Welp started his first feed mixing operation in 1940. Shortly thereafter he commenced manufacturing feed for distribution to Welp chick customers through the Welp dealer organization.

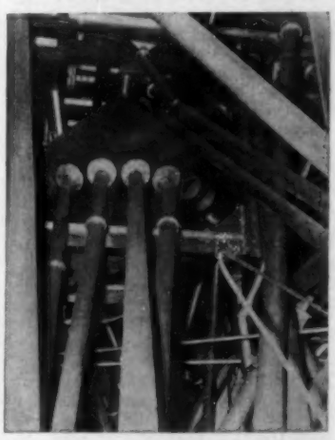
At the present time, approximately 120 Welp feed dealers within a 100 mile radius of Bancroft handle the complete line of Welp's feeds. Nearly 200 dealers handle the distribution of Welp-bred layers.

Demand for Welp's feeds has climbed to new high levels in recent years, which prompted the planning and subsequent construction of Welp's electronic feed mill, officials said.

Before Welp's held its grand opening, the Bancroft Register published a special section devoted to publicizing the new mill. The newspaper was given special circulation to 18,000 homes throughout the feed company's trade area.

During the two-day open house, visitors were given a "chalk-talk" outline of the exact manner in which the mill operates and how the ingredients are incorporated into Welp rations. A complete tour of the mill followed.

Each visitor was provided with a four-page folder listing mill construction facts and detailed points concerning bulk holding facilities, machinery installations and other aspects of the mill. Each folder contained a sample IBM "Select-O-Weigh" card of the type used in the completely electronic Welp mixing operation. Door prizes and lunch rounded out the two-day mill-opening celebration.



DISTRIBUTOR HEAD—Ingredients are elevated to the mill headhouse where they are distributed to respective bulk holding bins through a series of five Hayes-Stolz distributor heads like the one pictured.

GUATEMALA GETS MOREA BY TRUCK

CRETE, NEB.—The first trailer truckload of Morea liquid feed premix recently was delivered to Guatemala City, Guatemala, according to Philip C. Anderson, president, Feed Service Corp., Crete.

Mr. Anderson said the shipment was the first trailer truckload of any commodity to be delivered from the U.S. to Guatemala City over the Pan American Highway.

The truck also carried a supply of storage-tank units for feeding the liquid supplement to cattle, sheep and goats on farms and ranches. It left Berks, Neb., Feb. 29, and arrived on March 10 at Valdez, Gaitan y Cia, Ltd., the firm which has been licensed by Feed Service Corp. to manufacture Morea liquid feed in Guatemala.

Anderson Sells Grain Expanding Equipment

CLEVELAND—V. D. Anderson Co., Cleveland, for more than 50 years manufacturer of expellers for the vegetable oil and rendering fields, has announced its entry into the sale of equipment for making various expanded food products.

The firm first manufactured a grain expander in 1954. The company now has a "completely new expander" in operation in several fields showing a capacity of one to two tons expanded material per hour.

In the food expansion field, the firm services cover process engineering, procurement of complete plant equipment, erection supervision, startup assistance and periodic consultations with field personnel.

MODERN FEED PLANTS
By IBBERSON

BLATCHFORD CALF MEAL CO.
WAUKEGAN, ILL.

T. E. IBBERSON COMPANY
ENGINEERS & CONTRACTORS Since 1881
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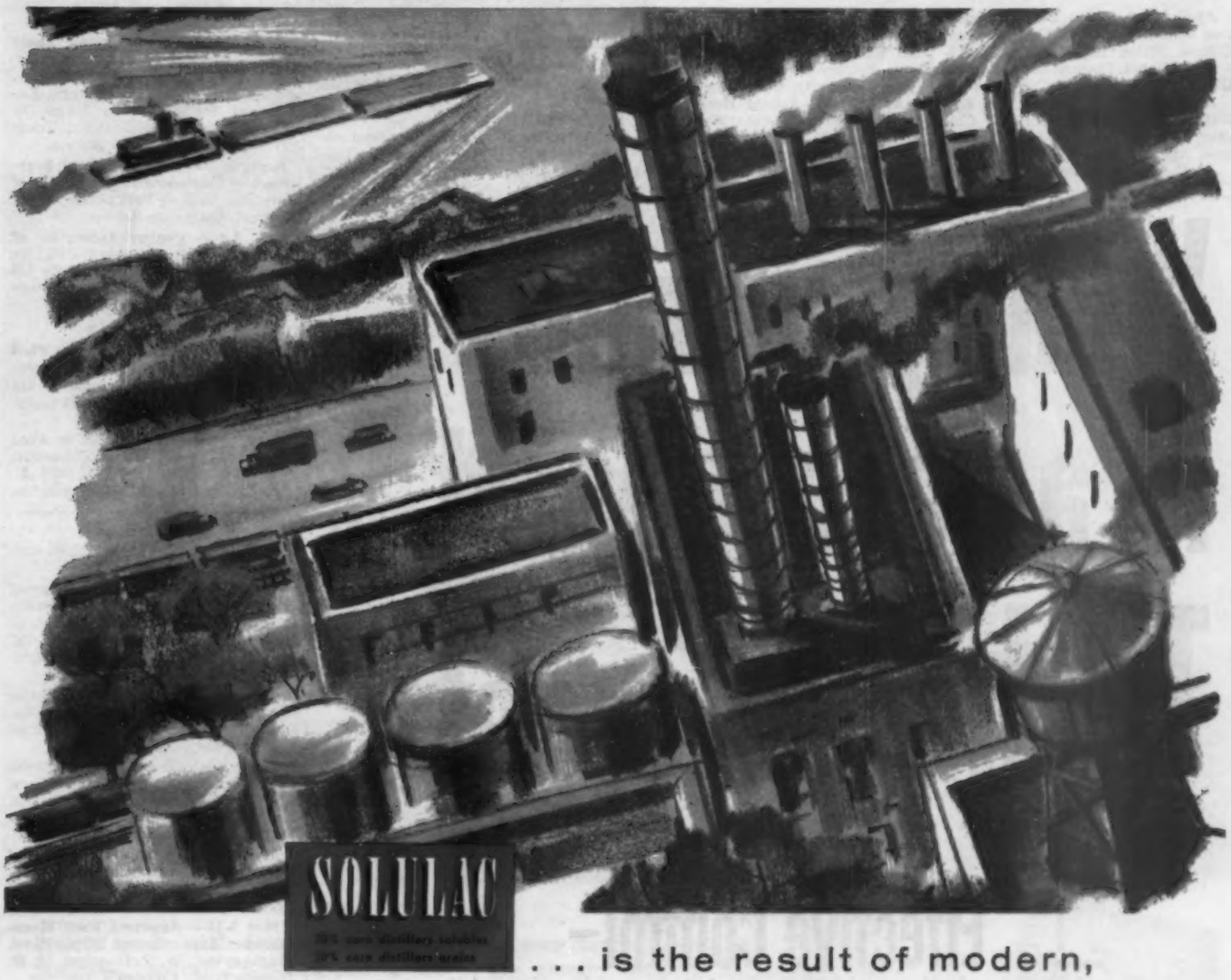

. . . is the result of modern, low cost production methods used at Grain Processing's plant

This production makes possible a continuous, economical supply of SOLULAC . . . your best source of unidentified growth factors so vital in the feeds you produce. SOLULAC is a better nutrient because it's a fermentation product from corn. It's recommended by the same leading nutritionists who have cautioned you that "slimming up" on unidentified growth factors can only produce poor results.* Remember, feed sales follow feedlot performance! So, it will pay you to keep SOLULAC in your feed formulas. Don't be misled by cheaper *or* more expensive substitutes . . . insist on *free flowing* SOLULAC! Available in 50 and 100 lb. bags or bulk carloads.

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Primary Fermentation Products
Member of the DISTILLERS FEED RESEARCH COUNCIL

Riboflavin — Vitamin B-12 — Bacitracin — GP-101, source of whey and other unidentified growth factors

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Convention Calendar

April 10—Informal Poultry Nutrition Conference; Waldorf Ballroom, Conrad Hilton Hotel, Chicago; Edward C. Naber, Poultry Science Dept., Ohio State University, Columbus 10.

April 11-13—Poultry and Egg National Board, LaSalle Hotel, Chicago, Ill.; mgr., Floyd Geil, 8 S. Michigan Ave., Chicago 13, Ill.

April 11-15—Federation of American Societies for Experimental Biology; Waldorf Ballroom, Conrad Hilton Hotel, Chicago; Edward C. Naber, Poultry Science Dept., Ohio State University, Columbus 10.

April 17-19—Animal Health Institute; Shoreham Hotel, Washington, D. C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines 9, Iowa.

April 21—New England Dairy Feed Conference; Hotel Lenox, Boston, Mass.; chm., Dr. Stanley N. Gaunt, Dairy and Animal Science Dept., College of Agriculture, University of Massachusetts, Amherst.

April 21-23—Florida Beef Cattle Breeders and Herdsmens Short Course; University of Florida Livestock Pavilion, Gainesville; Dr. T. H. Cunha, Animal Husbandry Dept.

April 21-23—California Hay, Grain & Feed Dealers Assn.; Ambassador Hotel, Los Angeles; association office, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 21-23—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 22—Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., Dr. W. M. Beeson, Animal Science Dept.

April 22 — Nebraska Livestock Feeders Day; University of Nebraska, College of Agriculture, Lincoln; chm., Wm. J. Loeffel, Animal Husbandry Dept., Lincoln 3, Neb.

April 24-28—Business Management Program, sponsored by Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

April 29—Washington Beef Cattle Day; Washington State University, Pullman; Dr. Irwin Dyer, Animal Science Dept.

May 1-4—National Fisheries Institute; Hotel Fontainebleau, Miami Beach, Fla., asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 1-5—American Association of Cereal Chemists; Morrison Hotel, Chicago; Association Office, 1955 University Ave., St. Paul 4, Minn.

May 9-11—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 9-11—Association of American Feed Control Officials; Sheraton-Blackstone Hotel, Chicago; sec., Bruce Poundstone, Feed and Fertilizer Dept., Agricultural Experiment Station Bldg., University of Kentucky, Lexington.

May 11—South Carolina Poultry Festival; Batesburg-Leesville, S.C.; sec., W. E. Sanders, Batesburg.

May 15-16—Missouri Grain & Feed Assn.; Hotel Governor, Jefferson City; sec., D. A. Meinershagen, Higginsville.

May 15-17—National Cottonseed Products Assn.; Roosevelt Hotel, New Orleans, La.; sec., John F. Moloney, Box 5736, Memphis 4, Tenn.

May 16—Des Moines Feed & Grain Club Field Day; Hyperion Field Club and Veterans Memorial Auditorium; Les Bright, 1850 E. Euclid, Des Moines 13.

May 23-27 — Southeastern Egg Quality and Grading School; University of Georgia, Athens; sponsored by Southeastern Poultry & Egg Assn., sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

May 24-25—Egg Marketing and Merchandisers Institute; Cornell University, Ithaca, N.Y.

June 6-7 — Central Retail Feed Assn.; Schroeder Hotel, Milwaukee,

June 5-9—Association of Food and Drug Officials; Baker Hotel, Dallas, Texas; sec., J. F. Lakey, Director, Division of Food and Drugs, Texas State Department of Health.

Aug. 1-6—Feed Microscopy Short Course; Memorial Student Center, Texas A&M College, College Station; sponsored by Texas Agricultural Experiment Station; chm., Ewing E. Brown, State Chemist's Office, Texas Agricultural Experiment Station.

Sept. 14-15—Maryland Feed Servicemen's Conference; University of Maryland, College Park; chm., Wade H. Rice, Extension Service.

Oct. 2-4 — Poultry Industries of Louisiana, Inc.; Bellemont Motor Hotel, Baton Rouge; sec., Clyde Ingram, Knapp Hall, Louisiana State University, Baton Rouge.

1961

Jan. 16-17—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Feb. 19-21—Ohio Grain & Feed Dealers Assn.; Neil House, Columbus; sec., George G. Greenleaf, 5625 N. High St., P.O. Box 121, Worthington.

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the columns in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

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of all commercially important species of coccidia.

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. . . up to $40 extra profit per 1000 birds in impartial comparative tests.

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for poultry . . . harmless to other warm blooded animals.

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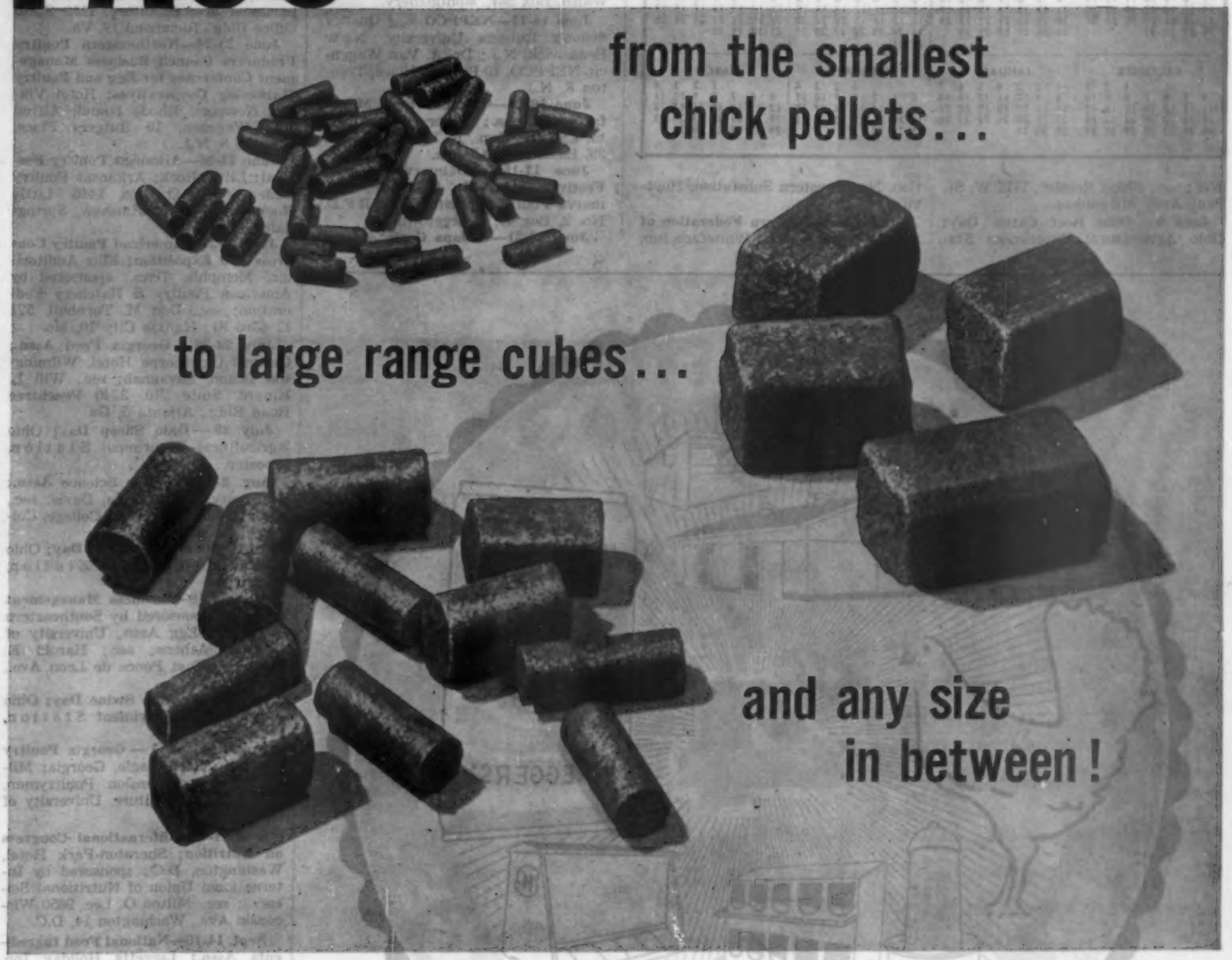

Pellets made with Paco mean repeat business, because Paco-ized pellets are entirely different from any other pellet.

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CALENDAR FOR 1960-61

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Wis.; sec., Eldon Roesler, 1712 W. St. Paul Ave., Milwaukee.

June 9 — Ohio Beef Cattle Day; Ohio Agricultural Experiment Station, Northwestern Substation, Hoytville.

June 12-14—Eastern Federation of Feed Merchants, Inc., Whiteface Inn, Lake Placid, N.Y.; exec. director, Austin W. Carpenter, Sherburne, N.Y.

June 13-15 — American Association of Feed Microscopists; Hilton Hotel, San Antonio, Texas; sec., G. M. Barnhart, Missouri Department of Agriculture, Jefferson City, Mo.

June 14-15 — Alabama Poultry Industry Assn.; Municipal Auditorium (Exhibits) and Thomas Jefferson Hotel, Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

June 14-17—NEPPCO Egg Quality School; Rutgers University, New Brunswick, N.J.; Dr. A. Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

June 16-18—Canadian Feed Manufacturers Assn.; Jasper Park, Alberta, Canada; chm., R. Hill, P. O. Box 39, Edmonton, Alberta.

June 17-18 — Delmarva Chicken Festival; Selbyville, Delaware; Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown.

June 19-21—Indiana Grain & Feed Dealers Assn.; Mid-Summer Convention; French Lick-Sheraton Hotel, French Lick; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

June 19-22— The American Dairy Science Assn.; Utah State University, Logan; sec., H. F. Judkins, 32 Ridgeway Circle, White Plains, N.Y.

June 21-23 — Association of Southern Feed & Fertilizer Control Officials; Riverside Hotel, Gatlinburg, Tenn.; sec., Maurice B. Rowe, Department of Agriculture, 1119 State Office Bldg., Richmond 19, Va.

June 23-24—Northeastern Poultry Producers Council Business Management Conference for Egg and Poultry Marketing Cooperatives; Hotel Viking, Newport, Rhode Island; Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

June 24-26—Arkansas Poultry Festival; Little Rock; Arkansas Poultry Federation, P.O. Box 1446, Little Rock; chm., Jerry Hinshaw, Springdale.

July 19-21—American Poultry Congress and Exposition; Ellis Auditorium, Memphis, Tenn.; sponsored by American Poultry & Hatchery Federation; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

July 23-26 — Georgia Feed Assn.; General Oglethorpe Hotel, Wilmington Island, Savannah; sec., Will L. Kinard, Suite 210, 3240 Peachtree Road Bldg., Atlanta 5, Ga.

July 29 — Ohio Sheep Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 2-5 — Poultry Science Assn.; University of California, Davis; sec., C. B. Ryan, Texas A&M College, College Station.

August 12 — Ohio Dairy Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 14-18—Business Management Program, sponsored by Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

August 19—Ohio Swine Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 29-Sept. 1 — Georgia Poultry Institute; Rock Eagle, Georgia; Milton Dendy, Extension Poultryman, College of Agriculture, University of Georgia, Athens.

Sept. 1-6 — International Congress on Nutrition; Sheraton-Park Hotel, Washington, D.C.; sponsored by International Union of Nutritional Sciences; sec., Milton O. Lee, 9650 Wisconsin Ave., Washington 14, D.C.

Sept. 14-16—National Feed Ingredients Assn.; Liggetts Holiday Inn, Burlington, Wis.; sec., Paul W. Bonewitz, 1023 Equitable Bldg., Des Moines, Iowa.

Sept. 21-23 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20

(Turn to CALENDAR, page 65)

Exclusive Franchise

STILL AVAILABLE FOR GOOD DEALERS IN SOME AREAS

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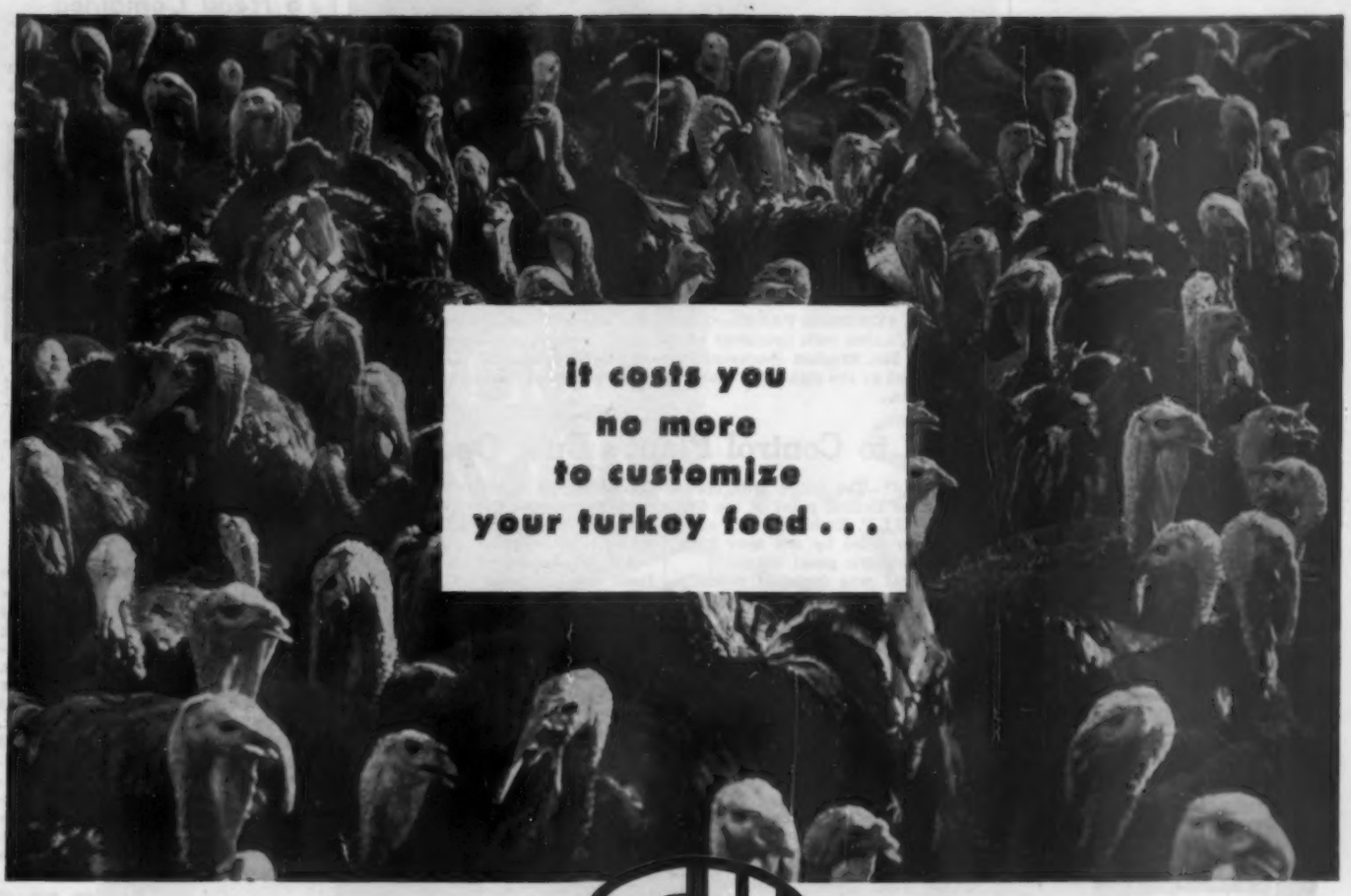

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There are two T-H MIXES to cover every turkey growing stage. No. 1 is for starter, grower and finisher rations; No. 2 is for turkey breeder rations. Because there's a T-H MIX for every growing stage, you can order a complete premix inventory — there's no piecemeal ordering, no waste or unbalanced inventories.

All T-H MIXES contain only the additives that sensibly belong in a premix. And when used in conjunction with a suggested T-H feeding program, T-H MIX assures you of customized feed formulation, without guesswork, without waste! You just select the one combination of ingredients in the T-H feeding program that fits your needs, and your work is done! Let Thompson-Hayward customize your feeds, write for more information today.

SEAL OF T-H SERVICE

To better satisfy the needs of our customers, the Thompson-Hayward Feed Chemical Division maintains a skilled and highly-qualified staff of feed nutritionists. Constantly in touch with the numerous research programs being conducted by colleges and universities across the nation, this nutritional staff stands ready to supply any necessary information or consultation concerning state feed laws, disease control, specialized feed formulation. It is the sole purpose of this staff to help you manufacture better feeds through more effective use of feed additives. You are invited to take advantage of this service.

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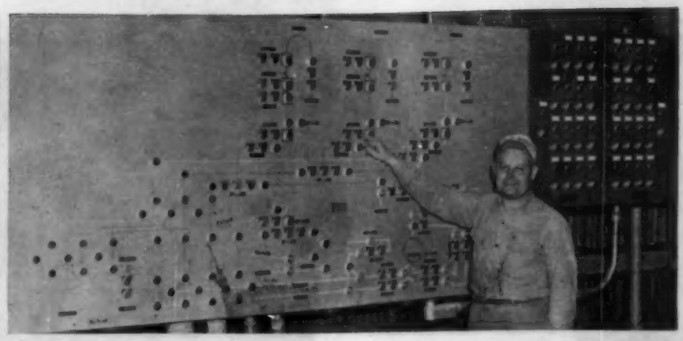


CENTRAL CONTROL PANEL—This is the electric panel board which will control the entire bulk operation at the Buffalo plant of Cooperative G.L.F. Exchange, Inc. Stephen Dachowski, an employee, points to the panel. The darker panel at the right will control the movement of feed to the new bulk loading bins.

Panel to Control Plant's Bulk Operation

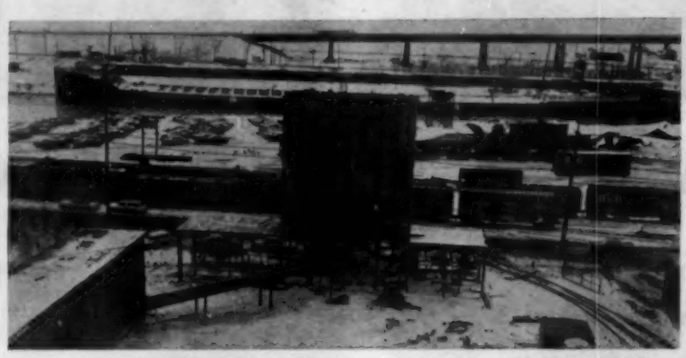
BUFFALO—The entire bulk operation at the Buffalo plant of the Cooperative G.L.F. Exchange, Inc., soon can be controlled by one man from a central electric panel board.

The panel was installed recently and at present controls operations within the plant only. When a new bulk truck loading station is completed about May 1, the central panel board will control the entire operation, according to the G.L.F. publication, G.L.F. Week.

This central control point starts all elevator legs, conveyors, mixing, screening and bulk weigh scales. Colored lights at intervals along colored lines show the operator when machines are running and the flow of material to the point of final loading.

All air valves which direct feed from one conveyor to another are controlled from the panel board.

When they are completed, bins in the new 32-bin bulk truck station can be filled by using controls on a separate electric panel board. Distributors at the top of the bins can be directed by means of the board to fill any designated bin. The truck station is located about 300 ft. from feed manufacturing facilities.



NEW LOADING FACILITIES—These are the new bulk loading facilities under construction at the Buffalo plant. The structure will support a cluster of 32 bins, each with a capacity of 10-12 tons of feed. The bins will be located over a large truck platform scale 90 ft. long, large enough to accommodate any size truck or trailer.

Texas Feed Microscopy Short Course Is Scheduled Aug. 1-6

COLLEGE STATION, TEXAS—The fourth annual Feed Microscopy Short Course sponsored by Texas A&M College School of Agriculture and Texas Agricultural Experiment Station will be held Aug. 1-6, at the Memorial Student Center on the campus at College Station. Training will be provided for beginning personnel in the science of microscopy.

The course will be under the direction of Ewing E. Brown, station microscopist, who will be assisted with the instruction by Lewis Barefield, head, department of microscopy, Arkansas State Plant Board, Little Rock, Ark., and by G. M. Barnhart, microscopist and chief chemist, Missouri State Department of Agriculture, Jefferson City, Mo. Mr. Barefield and Mr. Barnhart will instruct the beginner section. Mr. Brown will devote the greater part of his time to instructing the more advanced students in the methods of micro-quantitative analysis. This quantitative phase includes methods for separating ground ingredients from mixtures and determining their percentages quantitatively by use of a microscope.

The following statements are quoted from a talk given before the 1959 short course by Reed McDonald, director, Texas Feed Control Service at College Station: "Only the feed microscopist who is competent and who has made a study of the composition of a feed product has any idea as to what it may contain. There is an urgent need for more trained microscopists. Your services are needed and are most valuable in feed control work. I know, too, that you are needed by commercial feed manufacturing organizations."

This year extra equipment and facilities have been made available for use in the special course. A total of 50 registrations will be accepted. A registration fee of $10 will be charged for the 5½-day course. A monocular compound microscope, equipped with mechanical stage, will be provided for those who can not bring their own equipment. Those who are accustomed to the use of their own microscopes and lamps should bring them for use at the short course.

Those planning to attend the course should write Ewing E. Brown, state chemist office, Texas Agricultural Experiment Station, College Station, Texas, for a registration blank.

FEED FIRM INCORPORATED

VALLEJO, CAL.—G. R. Kirkpatrick, miller of poultry and dairy feeds, has incorporated his operations under the name of Kirkpatrick Mills, Inc., with stock valued at $100,000. The firm is located in Pope Valley, near Vallejo.

To Head Combined Richardson Districts

CLIFTON, N.J.—Combining of its upper New York state and Buffalo districts to form a larger area, to be known as the New York district, has been announced by Richardson Scale Co.

Kenneth Kardux

Kenneth Kardux, responsible for the upper New York state district the last two years, will manage the expanded territory. Mr. Kardux was formerly a New Jersey office sales engineer and prior to that served as a design engineer.

The New York district office is located at Camillus, N.Y.

Iowa Firm Produces New Blender, Grinder

OSKALOOSA, IOWA—Production has started on the new Mahaska Percentage Blender and Grinder of Mahaska Industries here, according to P. J. Geerlings, president. The machine is designed for use by farmers, feed dealers and feed mills for the automatic production of a balanced feed ration for poultry and livestock.

The Oskaloosa factory was started about three years ago for the manufacture of this product, but the machine had to be tested and perfections completed before operations began, officials said. In the meantime, the firm sold its own line of livestock and poultry feeders and waterers.

"With the new machine, cost of grinding-mixing a ton of feed is less than 20¢," according to Mr. Geerlings. "Feed formulas can be mixed within 1% correct by placing each dial at the percentage needed. Feed ingredients as corn, oats, alfalfa and protein supplements are stored in each of the four hoppers and automatically fed into the percentage feeders, being mixed while leaving the machine to enter the hammermill. Besides feed, the blender can be used for mixing fertilizer, seed and chemicals."

Mr. Geerlings says he started the project 15 years ago, but met the problem of feeding each ingredient separately at the exact percentage needed, which has now been overcome.

Sterling Drug Reports Record High Profits

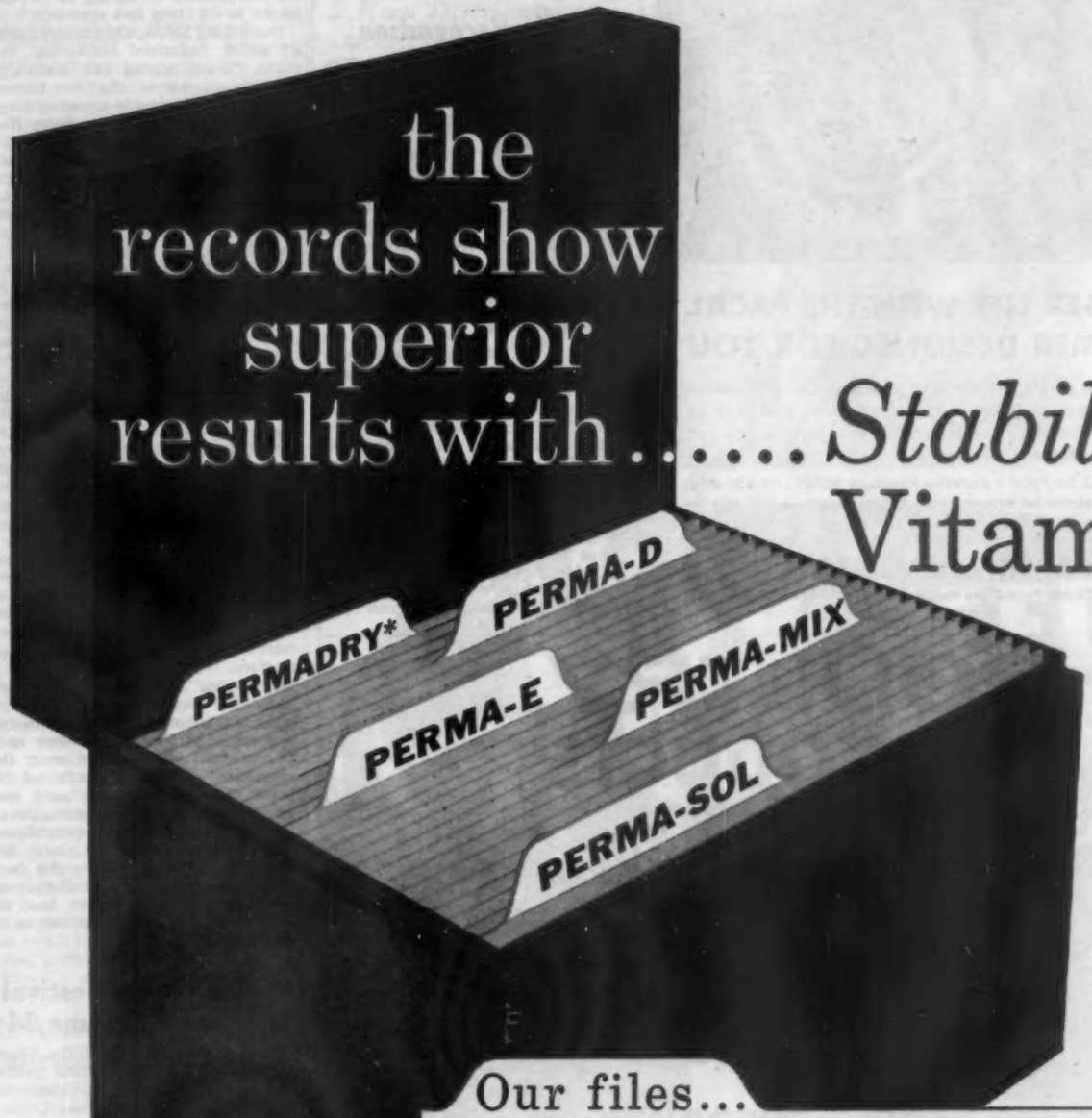
NEW YORK—The best year in its history was recorded in 1959 by Sterling Drug, Inc., and consolidated subsidiaries as profits, sales and dividends attained record levels, according to the annual report mailed to stockholders.

Net profit for the year ended Dec. 31, 1959, was $20,990,226 or almost 10% over the $19,148,880 reported a year ago. Net earnings were equivalent to $2.65 per share, compared with $2.42 per share in 1958. Earnings before taxes were $42,890,226, compared with $37,348,880 a year ago.

Net sales of the company and consolidated subsidiaries were $209,247,000, an increase of 5.8% over sales of $197,789,000 in 1958. Total sales, including sales of the company's units in South America, which are not reflected in the consolidated statement, were $228,853,000, compared with $215,844,000 in 1958.

Net 1959 sales (including non-consolidated sales in South America) of medicinal preparations totaled $103,708,000 for proprietary products advertised to the public and $77,027,000 for pharmaceutical specialties; industrial products totaled $27,503,000, and other consumer products totaled $20,615,000.

the records show superior results with.....*Stabilized* Vitamins



Our files...

in servicing the feed industry with stabilized vitamin products, nutrient-antibiotic mixes, and boosters to overcome conditions of stress, report one success story after another. The family of *stabilized vitamin* products provide essential nutrients which can be depended on for superior *stability* and *biological performance*. They are subject to rigid laboratory control, from selection of basic ingredients of top quality to standardization of the end-items to assure uniformity in performance. Our laboratory staff and scientific consultants are at your service in solving problems dealing with feed formulation, ingredient compatibilities, and need for accessory feeding. Custom-set potencies also.

PERMADRY The pioneer and leading "sealed-in" vitamin A product. The digestible fat, sealing in the vitamin, guarantees the highest biological performance and stability under all conditions of use, even in contact with trace minerals, moisture, and under pelleting operations.

PERMA-D Stabilized vitamin D_3, fat-coated for greater stability. Vitamin D_3 can also be furnished in stabilized oil solution and in water dispersible forms.

PERMA-E Stabilized natural vitamin E in a powdered vehicle of high caloric value. ENERG-E provides natural vitamin E in fat beads, the most concentrated source of calories.

PERMA-MIX Recommended combinations of vitamins and antibiotics; also blended according to customers' formulas. Trace minerals added as requested. Only Perma-Mixes are made with the Perma-Vitamins.

PERMA-SOL Water dispersible vitamin and antibiotic products of recommended formulas or custom mixed. Designed for farm animals too sick to eat. An effective booster at critical times.

*U. S. Patent No. 2496634 and others pending

Literature supplied on request

Stabilized Vitamins, Inc.

126-150 MONROE STREET • GARFIELD, NEW JERSEY • TELEPHONE: PRescott 3-2800
CABLE ADDRESS: PERMADRY • TELETYPE: PAS NO. 600

LONGER LIFE WITH THE PACAL HAMMER DESIGNED FOR YOU

Pacal offers a wide variety of types and styles of hammers to give you more hours of quality grinding and save on replacement costs. Pacal Hammers sharpen as they wear, hold their edge and cut cleaner.

NEW . . . Ask for Pacal's Abrasive Resistant BORALLOY-350 steel sheets and plates for severe production applications. Call or write the Hammer Division.

PAPER, CALMENSON & CO.
County Road B and Walnut Street • Saint Paul 13, Minnesota
Telephone: MIDWAY 6-9456

Ewing Postmark Ad Attracts Recognition

CHICAGO—The story of the Ray Ewing Co. ad campaign in which all copy was reproduced from genuine U.S. postmarks is told in the March, 1960, issue of Industrial Marketing, a monthly magazine which covers the field of selling and advertising to business and industry. The campaign — a series of eight one-column ads which ran in only one publication, Feedstuffs—has been described also in Printer's Ink and National Research Bureau's Idea Library for Sales Executives.

Paul L. Krueger

Paul L. Krueger, advertising manager of the Pasadena, Cal., feed supplement manufacturing firm, created the offbeat, successful ad copy. He recently challenged members of the Advertising Club of Pasadena to "Dare to Be Different—In Advertising." Mr. Krueger showed the group "how a company with a comparatively small advertising budget can compete successfully with bigger spending competitors by daring to be different in its ideas and approach."

Describing Mr. Krueger's postmark ad series, Industrial Marketing reports, "When strung out vertically in a one-column ad, the town names spelled out telegraphic-sounding messages such as 'Ray Ewing Story Superior Quality Mix Quick Supply.' The postmarks for this particular ad, for the benefit of philatelist readers, were from Ray, Minn.; Ewing, Ind.; Story, Ark.; Superior, Mont.; Quality, Ky.; Mix, La.; Quick, W. Va., and Supply, N.C."

The publication notes also, "Some of the ads even named Ewing field salesmen in the interest of readers in those territories. One, for instance, said: 'Henry Wilder Sells Ray Ewing Premium Quality Mix.' (Henry is in Illinois and Wilder is in Minnesota.)"

The first step in creating the ads, Mr. Krueger told Industrial Marketing editors, was to write 8- to 13-word sentences based on Ewing services, products or personnel. Hundreds were written, and many were discarded when an almanac failed to reveal towns with exactly the names needed.

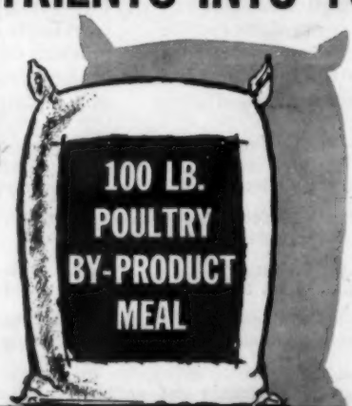
The second step involved writing letters to postmasters of the towns with the desired postmarks. Many of the postmarks were received as impressions on the outside of envelopes returned to Mr. Krueger by postmasters.

After the needed postmarks were gathered, Ray Ewing Co. ran its eight one-column ads in 13 consecutive issues of Feedstuffs. After each of the eight ads had run once, the remaining five issues contained repeats of ads which mentioned specific names of sales representatives.

It may have been a coincidence, but Industrial Marketing quotes Mr. Krueger as saying that for the three months following the first of the consecutive insertions, Ewing had the largest quarterly sales volume in its history.

POULTRY BY-PRODUCTS HELP YOU PACK MORE ENERGY AND NUTRIENTS INTO YOUR FEED

TO REPLACE THE ENERGY AND NUTRIENTS FOUND IN...



WOULD REQUIRE

110 lbs. SBOM (Dehulled)
6 lbs. Fat
6 lbs. Phosphorus supplement
4 lbs. Limestone
2½ lbs. Vitamin B_{12} sup. (6 mg/lb.)
1 lb. 25% Choline Chloride
750 mg. Niacin
350 mg. Riboflavin
both "fish" and "whey" factors

Efficiency and economy require a combination of ingredients that give you the maximum amount of energy and nutrients with the least sacrifice of precious space in the feed bag. There is no room for ingredients of low nutritive value or for ingredients that provide one needed feature at the expense of another.

WRITE FOR A LIST OF PRODUCERS OF
Poultry By-Product Meal
Hydrolyzed Poultry Feathers
Stabilized Poultry Fat

FREE!

Pamphlet telling how you can use poultry by-products to the best advantage in your feeds. Write on your letterhead to

POULTRY BY-PRODUCTS ASSOCIATION, INC.
P. O. Box 166, Lawrenceville, Georgia

Ozark Poultry Festival Is Scheduled June 11

BATESVILLE, ARK.—The Ozark Poultry Festival, one of four poultry festivals to be held in Arkansas this year, will be held here June 11.

The event, expected to attract several thousand poultrymen, farmers, feed dealers, feed manufacturers' representatives and agricultural officials, is sponsored jointly by the Arkansas Poultry Federation and the Batesville Chamber of Commerce.

Highlights will include a beauty contest. The winner will go to the state contest at Little Rock June 24-25. The state winner will receive $1,000.

A chicken barbecue and a cooking contest will be held to promote poultry products.

FEED MILL INSTALLED

LINCOLN, IOWA—Lincoln (Iowa) Co-op Elevator Co. has finished installation of a feed mill capable of grinding and mixing 80 tons feed per day.

MARCO

Special Steamed BONE MEAL

Minimum 70 BPL high in required minerals. Packed in paper-lined jute bags.

Call collect anytime for quotations — MA 6-2803

MARCO CHEMICAL COMPANY
P. O. BOX 8 • FORT WORTH 1, TEXAS

Broilers Set New Feed Conversion Average

FAYETTEVILLE, ARK.—Broilers set a new feed conversion average in random sample meat performance tests here at the University of Arkansas Agricultural Experiment Station.

Commercial entries produced an average of 49.87 lb. of chicken per 100 lb. of feed, David Andrews, junior poultryman, said in announcing results of the last two tests.

Feed conversion ranged from 50.51 to 49.09 lb. of chicken produced per 100 lb. of feed for seven entries in the 15th random sample meat performance test. The overall average live weight combined for both sexes at eight weeks was 3.2 lb.

In test No. 16 the over-all feed conversion averaged 48.46 lb. of chicken produced per 100 lb. of feed. Feed conversion ranged from 48.98 to 47.76 lb. for the four commercial entries. Over-all average live weight combined for both sexes at eight weeks was 3.24 lb.

Other measures listed in the two tests include viability to eight weeks, uniformity, eviscerated carcass yield, average breast angle, carcass grade and feed cost per pound of chicken.

Results of the two recent tests are given in Report Series 91, "Arkansas Random Sample Meat Performance Broiler Tests 15 and 16." Single copies are free if requested from the bulletin room, Agricultural Experiment Station, University of Arkansas, Fayetteville.

The Arkansas Poultry Improvement Assn. sponsors the random sample tests for participants in the National Poultry Improvement Plan. Personnel of the Arkansas Agricultural Experiment Station supervise the tests and collect and summarize the data.

Sixteen meat performance tests, and two laying tests have been completed since the program started in 1953.

CPA Anounces New Pelleted Dairy Feed

ATLANTA, GA.—A new "high grade" all-pelleted dairy feed known as 16% Dari-Krunch has been made available by Cooperative Mills at both Flowery Branch, Ga., and Guntersville, Ala., according to the Dixie Co-op News, a Cotton Producers Assn. publication.

J. Julian Baker, director of general distribution, CPA, said, "The all-pelleted type feed passes through over-head meter-type feeders with greater accuracy than feeds that are not pelleted.

"In addition to the new feed being offered, 20% Milk Maker, 16% Milk Maker, 20% Dari-Flo and 16% Dari-Flo have undergone some formula changes through increased use of crimped oats, gluten feed and cane molasses. These formula changes have increased the bulk and improved the appearance of these popular feeds," he said.

Mr. Baker said CPA Milk Makers, Dari-Flo's and the new 16% Dari-Krunch all contain more than 1,400 lb. T.D.N. per ton, "thus insuring dairymen of the best possible quality."

MILBREW CO.
BREWERS' DRIED YEAST
PROCESSORS SINCE 1933
3456 N. BUFFUM ST.
MILWAUKEE 12, WIS.
PHONE ED. 2-3114

Brower Announces 2 New Distributors

QUINCY, ILL.—Brower Manufacturing Co., Quincy, has announced appointment of two new Upper Midwest distributors for its line of poultry and livestock equipment.

The first of the new outlets is Northwestern Supply Co., Moorhead, Minn., headed by Doyle C. Ogren.

The other new distributor is General Supply Co., Watertown, S. D., owned by Jim Zellmer.

Texas Dehy Officers

EDINBURG, TEXAS — Chris Schmoker, Greenbelt Dehydrating Co., Vernon, Texas, has been elected president of the Texas Dehydrators Assn.

Leon Thompson, Waco Alfalfa Dehy Co., was elected vice president. Frank Thompson, Grayson Alfalfa Mills, Sherman, Texas, is secretary-treasurer.

SHELLBUILDER COMPANY • MARINE BUILDING • HOUSTON, TEXAS

Life with Shellbuilder is just a bowl of cherries.

Here's the BULK FEED TRUCK BODY you've been waiting for

Sizes 10', 12', 14', 16', and 18'.

✓ ALL PURPOSE COMBINATION BULK BODY!
✓ NO MANUAL LABOR — COMPLETELY HYDRAULIC
✓ NO NEED FOR 2ND UNIT — THIS ONE HAULS PRACTICALLY EVERYTHING
✓ NO OLD FASHIONED HOIST!

Here is a brand new idea in the handling and transporting of feed. New, because now you can handle bulk feed with ABSOLUTELY NO MANUAL LABOR, SAVING YOU TIME AND MONEY. One man at the hydraulic control panel raises the boom, positions it where he wants it, and unloads up to one ton of feed per minute — all without moving from the control panel which is operated from inside the truck cab. Yes, just one hand on the control panel, and the job is done.

What's more, the Curley Line Ton-A-Minute, Combination Bulk Body eliminates the need for a second unit, again cutting your overhead costs. Not only can the body be divided into three compartments for carrying three different formulas of bulk feeds, but the hinged inside angle sides can be easily raised and locked in place, which converts the bed into a standard truck body for carrying a maximum pay load of sack feed, grain, fertilizer or even farm stock.

At long last, here is the all-purpose combination bulk body that will really do a job for you. To learn the complete story — from the positive turning mechanism to the full length reversible auger to the heavy duty hydraulic system, clip and mail the coupon. Be sure to hear the Curley Line story before buying any feed truck body.

It will be well worth your time!

JUST LOOK AT THESE Curley Line FEATURES

1. Completely hydraulic bulk body delivers the feed where you want it with NO OLD FASHIONED HOIST, NO MANUAL LABOR.
2. Hinged sides convert into sack feed or grain body quickly and easily, eliminates the need for a second truck.
3. Full length, bottom discharge auger is reversible for front or rear discharge.
4. Positive turning mechanism. Boom stops immediately.
5. All welded, steel, heavy duty construction.
6. Hydraulic floor slides in all three compartments operate independently or together.
7. Unloads in minimum clearance areas — body is never raised to unload.
8. Tested on the job for speed, versatility, durability and proved performance.

CURL ENGINEERING AND MANUFACTURING CORP.
BOX 343 • MOUNT PLEASANT, IOWA

Clip This Coupon For Complete Information

Just clip this coupon and mail, together with your name and address, for complete facts about the Curley Line Ton-A-Minute Combination Feed Truck body. Of course, there is no obligation.

ONE DRUG PROVIDES TWO-WAY CONTROL OF BLACKHEAD... IT'S NEW CYZINE!

Cyzine Premix 10% is a safe and more convenient formulation. Its high activity and safety make it a top performer both for prevention and treatment. And birds go for it!

Turkey growers need a *thoroughly dependable* drug in the feeds they buy in order to cut blackhead losses. Now, you can provide exactly that kind of drug with Cyanamid's new CYZINE* Premix 10%.

This is a new formulation of ENHEPTIN®—the first drug ever introduced for blackhead control. Growers welcomed this additive in feeds and found it highly successful in reducing death losses and number of cripples.

Even though ENHEPTIN was quickly accepted by both feed manufacturers and growers, Cyanamid

1. CYZINE at 3lbs. per ton for prevention.

continued its research on the control of blackhead and later brought out a more active, more acceptable form of this preferred drug—ENHEPTIN-A Premix 15%.

Now—with the advent of CYZINE Premix 10%, this drug is available to you under a new name and in its most convenient form, at no increase in price.

CYZINE is low in toxicity, provides maximum safety. It is not only the best defense for the *prevention* of blackhead—it is also the most effective drug for treating outbreaks. CYZINE is palatable – feeds containing it are readily consumed by young or older birds.

The continuous feeding of 0.015% CYZINE (3 lbs. of CYZINE Premix 10% per ton of feed) is the recommended *preventive* level.

The recommended level for treating outbreaks is 0.05% CYZINE (10 lbs. of CYZINE Premix 10% per ton of feed). Treatment should be continued for two weeks, followed by continuous feeding at the preventive level to avoid recurrences.

More and more feed manufacturers will find it good customer service to incorporate CYZINE Premix 10% and recommend it for control of blackhead. American Cyanamid Company, Agricultural Division, New York 20, N.Y.

**CYZINE is American Cyanamid Company's trademark for 2-acetylamino-5-nitrothiazole.*

CYANAMID

CYZINE PREMIX 10%
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

2. CYZINE at 10lbs. per ton for treatment.

Poultry Breeders Plan Meeting in Chicago

KANSAS CITY—Poultry Breeders of America, Inc., rounding out its first year, will hold its annual meeting at the Hotel Bismarck in Chicago May 2. The meeting follows the Breeders' Roundtable, scheduled for April 30-May 1 at the Hotel Sherman.

PBA sessions are open to foundation poultry breeders and college and experiment station personnel interested in poultry breeding problems and techniques.

The educational sessions will get underway at 9:00 a.m. Topics to be discussed include interior egg quality, control methods for avian encephalomyelitis, comparative costs of breeding work, exporting breeding stock and the future course of random sample poultry testing. The one-day meeting will conclude with a business session.

Current membership in PBA includes breeders of broiler stock, laying-type chickens and turkeys.

Officers are: Dr. W. F. Lamoreux, Kimber Farms, Inc., Niles, Cal., president; Dr. George Godfrey, Honegger Farms Co., Forrest, Ill., first vice president, and Dr. Cecil McClary, Heisdorf & Nelson Farms, Inc., Kirkland, Wash., second vice president.

Abbott to Expand Research Activities

CHICAGO—"An expanded research effort, exceeding all programs of the past, is a primary objective of Abbott Laboratories in the '60's," George R. Cain, president, told 400 Abbott scientists at the company's annual scientific staff dinner recently.

Mr. Cain pointed out that Abbott research expenditures had increased by 20% in 1959 and would advance by a similar margin in 1960 to reach a total of more than $8 million.

Mr. Cain and Elmer B. Vliet, chairman of the board, cut a symbolic ribbon to signify the fact that the new nine-story research center addition at North Chicago is almost ready for occupancy. "This addition represents the largest single capital investment in Abbott history," Mr. Cain said. "This is an investment not so much in facilities as in people. And I think we all look on it in terms of what can be accomplished in advancing the frontiers of medical science."

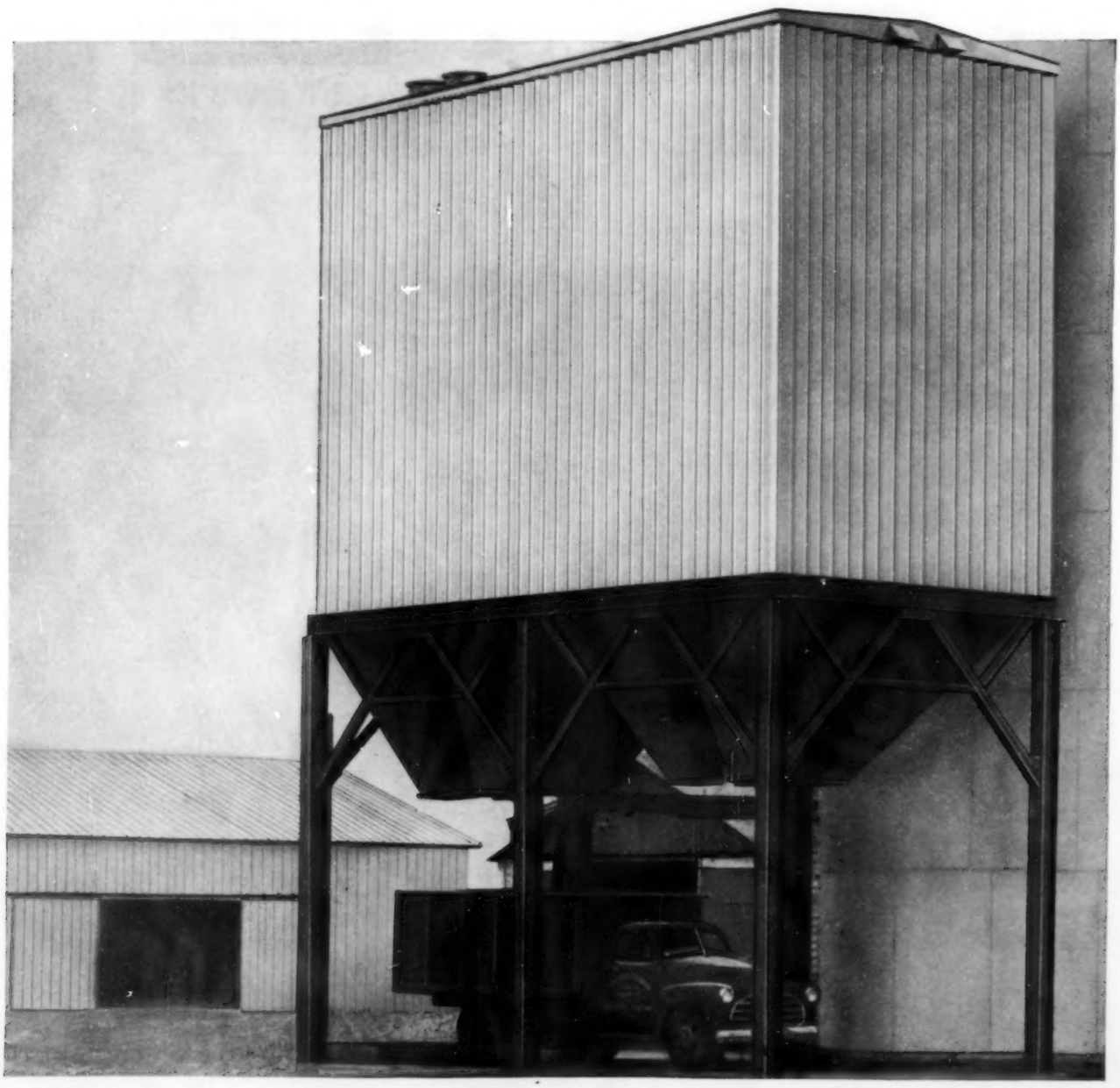
The new building covers more than 200,000 sq. ft. and more than doubles the space available for Abbott's scientific activities.

At the same time Mr. Cain warned against a "tendency to put too much emphasis on the magic formula of research." He said that the nation's gigantic efforts in research and development could possibly reach a point of "diminishing returns."

BUILDING DESTROYED

SALINA, KANSAS—Fire destroyed the Grain Belt Supply Co. building two miles north of here, with loss estimated at $450,000. O. L. Daniels, Salina, and Sherman Sampson and Darwin Sampson, Wichita, owners, said they hope to be back in business by the end of the year. The firm manufactures grain-handling equipment.

Butler Bulk-O-Mates—Planning to expand and go after profitable bulk feed business in new areas? Here's the newest way to build big-capacity, free-flowing terminal load-out, or country load-out and receiving stations. Bulk-O-Mates are completely "packaged" installations including roof deck, square tanks, hoppers and supporting structurals. You save costly planning and construction time, get into business sooner. Available in tank capacities from 1 to 50 tons. Contact your authorized Bolted Tank Contractor. Or write direct.



BUTLER

BUTLER MANUFACTURING COMPANY 7402 E. 13th Street • Kansas City 26, Mo.

Manufacturers of Equipment for Farming • Oil Transportation • Outdoor Advertising • Metal Buildings • Contract Manufacturing

Factories at Kansas City, Mo. • Minneapolis, Minn. • Galesburg, Ill. • Richmond, Calif. • Birmingham, Ala. • Houston, Tex. • Burlington, Ont., Can.

Ful-O-Pep engineers

help you blueprint bulk, grind-mixing set-up

...that just meets your needs!

For several years, Ful-O-Pep's engineering staff has studied problems of modern feed handling . . . they've helped many, many dealers plan and install efficient bulk and grind-mixing equipment.

As a Ful-O-Pep Dealer, you can call on this specialized experience to help you design a set-up that fits your particular layout . . . that keeps your investment low and saves you money. If you have an old set-up that's inefficient, perhaps our engineers can help you re-design your installation to make your operation more profitable.

Get the benefit of Ful-O-Pep's leadership in modern bulk and grind-mixing with its 5-Point Profit-Program: **1.** Unsurpassed experience and know-how in bulk handling and grind-mixing. **2.** Experienced engineering help in planning efficient, low-cost installations. **3.** Help in arranging financing. **4.** Personal sales help from trained sales and servicemen. **5.** Complete line of research-built, farm-proved concentrates that build satisfaction and repeat sales.

GO AND GROW WITH FUL-O-PEP! Line up with the leader . . . keep in the forefront of the trend to bulk and grind-mixing with Ful-O-Pep. See your Ful-O-Pep Representative. Or write J. C. Huckabee, Feed Sales Manager, The Quaker Oats Company, Merchandise Mart, Chicago 54, Illinois.

FUL-O-PEP

made by The Quaker Oats Company

NEW! Breaks Up Grain Crusts!

Seedburo
CRUST BUSTER

- Rakes through and disperses surface crusts safely, quickly
- Portable, assembles easily
- Rakes 42" swath, 10" deep
- Aids aeration of hot-spots
- Combats surface bugs and larva

Amazing new CRUST-BUSTER protects grain profits against crusting. One man does the work of four. Includes ½ HP 3-phase Gearmotor drive, handle, two 18" drums with 7" prongs. *Optional:* Single-phase motor—$20.00. 100 ft. cord lengths with receptacles both ends —$35.00 each.

only $279.50

Order this new grain storage discovery today from

Seedburo
EQUIPMENT CO. 618 West Jackson Blvd. • Chicago, Illinois

★ Buy and Sell Through WANT ADS ★

sure

flat
storage
fumigation

Sure-kill for all grain insects . . . Larvacide! Developed for use with your recirculation system. Free from tolerance. Built-in warning odor. Panobrome, methyl bromide, also available.

Larvacide®

PANOGEN COMPANY
Division of Morton Chemical Company
110 North Wacker Drive, Chicago 6, Illinois

FRONT OF MILL—Frank Hopkins, vice president, keeps the plant operating efficiently. The firm started mixing feed in 1922. Storage capacity of the elevator is 50,000 bu. Storage capacity of warehouses is 50 carloads.

Efficiency, Modernization Are Keys for New Hampshire Plant

By Charles L. Stratton
Special Writer

"A good product at the right price" is the goal of E. C. & W. L. Hopkins, Inc., independent feed manufacturers, Greenfield, N.H.

"We'll make feed, soft sell and leave the raising of chickens to the farmer," says Charles Hopkins, the firm's treasurer.

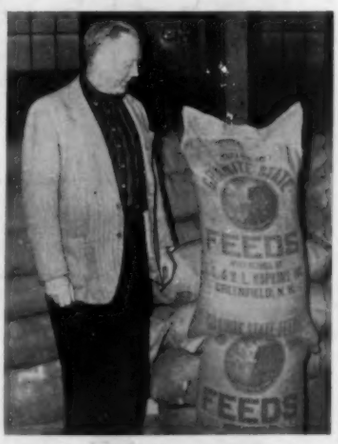
"No fancy advertising," say Charles Hopkins; Donald Hopkins, president, and Frank Hopkins, vice president. "As long as we can keep our basic overhead low, we can make feed at the right price, work at full capacity and keep up with modern changes."

The feed mill's location helps contribute to the lower cost of operation. It is located outside a small village (population 450) on a fairly well-traveled freight line, no nuisance or expansion problem, population concentration within 50 miles (one-half state's population within 30 miles), and can service a tremendous area by truck. Excellent labor relations, reasonable tax structure and very good power rates are also important operating factors.

Modern equipment is another important factor. Over the past 10 years, more than $133,000, exclusive of highway trucks, has been put into improving buildings and equipment. This is not a so-called "push-button" mill. As Charles Hopkins puts it, "Too expensive for this size operation. However, through constant improvements over the years, we have offset the rising labor costs and average less than 1½ man hours per ton of feed produced."

Equipment

Equipment includes two mixers capable of mixing 100-125 tons of feed per day. This mill was one of the first to install a positive air system for handling moving grain, first



LOOKS OVER FEED—Charles Hopkins looks over several bags of trademarked feed. The firm registered the "Old Man in the Mountain" trademark in 1930.

READ OFFICE TELETYPE—Donald Hopkins (left), president, and Charles Hopkins, treasurer, read the office teletype. Their firm seeks to keep basic overhead low so as to make feed "at the right price."

in New England to move bagged feed on pallets with fork-lift (three fork-lifts purchased since 1945) and first to use fork-lift trucks without pallets to load cars with bagged feed. In 1959, a new smooth-flowing pellet mill was installed. Pellets are conveyed directly into bins over the bulk-truck loading dock and scale or into separate bins for sacking.

The steam used in the pellet plant operation is produced by an electric steam generator that will convert 480 lb. of water into steam at 80 lb. pressure in an hour. Rates comparable to other power sources are obtained on an off-peak basis. Pellet making is done only on the night shift to utilize the off-peak operation of the electric steam generator when rates are cut in half.

Of the nearly 30,000 tons of feed sold last year, nearly 20,000 tons was shipped by rail and 10,000 by truck. One-half of the truck deliveries were in bulk. Local truck tonnage has more than made up for the decrease in outbound rail freight.

"We believe the future trend will be for large cost-conscious dealers and poultrymen to equip their own bulk truck and buy direct," Charles Hopkins says. "They can install a van body on a truck and add a blower system or use an auger-equipped body."

"Dealers can shave feed handling costs this way," he said. "One dealer picks up 8 ton loads of crumbles and delivers direct to his customers. Other dealers with bulk trucks —that handle several brands—pick up loads anywhere and deliver direct to consumer without storage problems."

No Contracting

Unlike many feed manufacturers, this firm has not gone into contract poultry raising and doesn't intend to. "We believe in sticking to the feed business," Charles Hopkins says, "and let the chicken man handle chickens. With our size plant, we can keep our volume up without going into the growing end of it."

Overhead is pared by holding advertising expenses to a minimum, say the Hopkins. Yet this firm does a New England-wide business.

The firm puts forth its creed on a printed piece which says: "A customer is not dependent on us—we are dependent on him . . . A customer is not an interruption of our work—he is the purpose of it . . . A customer is not a cold statistic—he is a flesh and blood human being with feelings and emotions like our own . . . A customer is not someone to argue or match wits with. He, too, has his problems . . . A customer is a person who brings us his wants—it is our job to fill those wants—and on time . . . A customer is deserving of the most courteous and attentive treatment we can give him . . . A customer is the fellow that makes it possible to pay your salary whether you are a truck driver, plant employee, office manager, salesman or manager . . . A customer is the most important person in this business. He does not have to buy from E. C. & W. L. Hopkins, Inc. We attribute our success to pleasing our customers—not outguessing them."

BAGGING FEED—Here feed is being bagged on Thayer scales. This firm actively seeks the trademarked mixing of dealers or farm organizations that want their own trademarked brands.

This firm also is active in seeking trademarked mixing.

Custom Mixing

Custom mixing is done for many dealers and farm organizations who want their own trademarked brands. This feed is put out under the dealer's own name and brand. Donald Hopkins, the firm's nutritionist, works out formulas for this type customer.

Service calls are made by one full-time serviceman and the managers of the two company-owned stores who call on local customers.

Starting as a general country store in 1873, it became a separate grain business in 1917 and started mixing in 1922. "Back in 1932 our chances were belittled because of our small size. Today, we're one of the three largest in the state and we're still selling feed to many of the same 1932 accounts. We're close to the customer, and we expect more poultry will be grown in the area.

"Our position as a local mill was strengthened when the railroads started charging freight on non-transit ingredients included in prepared feeds, adding to the delivery cost from milling and transit points. The second development has been the increase in large poultry and dairy operations, which frequently look to local plants where their special requirements can be more easily met."

Feed Mill Open House

STANHOPE, IOWA — Farmers Co-op Elevator will hold open house at its new $175,000 feed mill here, according to Floyd Crim, manager. The mill was completed about a month ago.

The steel and concrete structure has a capacity of 150 tons feed a day. Special features include a $45,000 pellet mill and a hay shredder that grinds up bales of hay and adds them to the feed mixtures.

m-m-m-NEW
CALF-PAB
MILK REPLACER
Nectarized
FOR GREATER PALATABILITY
Smells Better
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Histostat®-50 scores highest

• WEIGHT GAIN • FEED EFFICIENCY •

Once again Dr. Salsbury's Histostat-50 has been proven to prevent blackhead best and to provide other benefits needed by turkeys for fast, profitable gains. The following is taken from the "1959 TURKEY DISEASE CONTROL REPORT," University of Minnesota, Northwest School and Experiment Station, located at Crookston, Minnesota. It is reprinted here to give you factual data on a series of tests that are important to every feed man.

"Infectious Enterohepatitis (Blackhead) continues to be one of the more important turkey diseases in this area. According to USDA reports, death losses from this disease amount to over $3,750,000 annually, and there is an additional financial loss because other birds in the flock become infected but survive and show a loss of weight and market condition. Additional birds may be condemned at the time of inspection because of healed cecal or liver lesions.

"In the past ten years, progress has been made in the development of effective drugs, but the complete prevention and control of blackhead has not been achieved. Because there is little or no immunity to the disease, the preventive program has to be used on a continuous basis.

"The objectives of this year's projects were:

1. To compare the efficacy of .025 per cent 4-nitrophenylarsonic acid (Histostat-50), .025 and .035 per cent Nithiazide (Hepzide), .011 and .0166 per cent NF-64, .0166 per cent NF-179 and .011 per cent of furazolidone (NF-180) when used on a continuous basis to prevent blackhead.
2. To determine the effect of these drugs when used continuously from 4 to 24 weeks on the growth rate and finish of the turkeys.

"Four hundred turkeys were divided into eight flocks of 50 birds each (25 hens and 25 toms) and rotated clockwise at weekly intervals in the pens to insure equal exposure of all birds to the contaminated yard.

"The treatments employed from 4 to 24 weeks were as follows:

Lot 1B—Basal ration Minnesota Standard 25% protein.
Lot 2B—Basal+1 lb. Histostat-50 per ton.
Lot 3B—Basal+1 lb. 11 ounces Hepzide 30 mix per ton.
Lot 4B—Basal+2 lbs. 5 ounces Hepzide 30 mix per ton.
Lot 5B—Basal+2 lbs. NF-64 mix (100 gms. pure NF-64) per ton.
Lot 6B—Basal+3 lbs. NF-64 mix (150 gms. pure NF-64) per ton.
Lot 7B—Basal+3 lbs. NF-179 (150 gms. pure NF-179) per ton.
Lot 8B—Basal+2 lbs. NF-180 (100 gms. pure NF-180) per ton.

Blackhead Inoculations

"Fifty per cent of the hens and toms were inoculated with embryonated Heterakis eggs on July 24, 1959. The birds were fed only chopped yellow corn as their only source of feed and water for 20 hours prior to the inoculation. Medicated feeds were again fed on the evening of the day of inoculation. The other birds in each lot were exposed to the disease by natural contact.

Diagnosis

"All birds that died were autopsied and cause of death determined. The heart, liver, spleen and intestinal tract were fixed in formalin solution and sent to the Veterinary Laboratory for further study. This was to determine if any other diseases were complicating the blackhead losses.

Drug Analysis

"Representative samples of each feed at each mixing time were sent to the laboratory of the respective manufacturers for drug analysis. The drugs were prepared in a suitable carrier pre-mix, then added to a soybean meal base before being added to 1,000-pound mix of the Minnesota Standard Turkey ration.

"The analysis of the drug levels of the forty-eight mixings of the various rations showed good agreement between the theoretical and the actual amounts of the many different levels of drugs used in the experiments. The assays showed the percentage of drugs in all rations to be well within the limits of error of the analysis.

Conclusions

"From 10 to 14 days after the exposure the birds showed the effects of the disease particularly in the control pen. Losses occurred starting about 14 days after exposure. During the experiment, a few birds died from non-specific causes. There was no other disease apparent in the flock.

(Comparative data are given in table on next page.)

"Although the range has been used for these blackhead studies since 1951 and in earlier experiments heavy mortality was encountered from natural exposure, in recent years very little exposure has been obtained

NATIONWIDE SERVICE

on every point

FLESHING • BLACKHEAD PREVENTION

Weight, Feed Efficiency, Finish, and Mortality Data

Lot Number	1B	2B	3B	4B	5B	6B	7B	8B
Drug Treatment	None	1 lb. Histostat 50	1 lb. 11 oz. Hepzide 30	2 lb. 5 oz. Hepzide 30	2 lb. NF 64	3 lb. NF 64	3 lb. NF 179	2 lb. NF 180
Av. Wt. Toms, Lbs.	21.96	22.94	21.81	21.95	22.47	21.49	23.44	23.05
Av. Wt. Hens, Lbs.	15.13	15.58	14.99	15.01	15.72	15.28	15.54	14.74
Feed Req. Per Lb. Gain	5.08	4.17	4.67	4.32	4.63	3.91	3.98	4.48
Feathering—Toms	93.75	98.75	94.44	100.00	100.00	89.29	98.96	97.50
Hens	100.00	100.00	100.00	100.00	98.75	98.86	100.00	99.00
Fleshing— Toms	84.38	96.25	90.28	84.38	92.30	80.95	92.71	88.75
Hens	100.00	100.00	100.00	100.00	98.75	98.86	100.00	98.00
Mortality Blackhead, %	24%	2%	12%	10%	22%	14%	4%	12%

from the soil. Heterakis ova have been administered for the past few years to supplement the pen exposure but in spite of this exposure there does not seem to be a buildup of the infection in the soil. Whether the constant use of the area with the continuous use of medication has played any value in reducing the amount of blackhead picked up from the pen exposure is open to speculation.

"With the exception of Lot 5B, the mortality was reduced 50 per cent or better. Lots 2B and 7B had the lowest loss from blackhead.

"At the time of evisceration, the organs of all birds were examined for evidence of lesions of Blackhead or any other diseases. A few birds showed healed lesions of blackhead, but had recovered to pass inspection."

What Does This Mean To You?

As a feed manufacturer or dealer, you'll surely want your customers' birds to have all the many benefits provided by Dr. Salsbury's Histostat-50. Also you'll be glad to know that Histostat is an "old drug" that does not require special paper work for FDA clearance. Please phone, write or wire today for a copy of Feed Manufacturer's Guide No. 16. Or, ask for a Dr. Salsbury's technical service adviser to call and personally answer your questions about using Histostat-50 to formulate a superior turkey feed.

Dr. SALSBURY'S LABORATORIES
Charles City, Iowa

TO THE FEED INDUSTRY

Hay Processing Machine Developed By California Men

TRACY, CAL.—A new hay processing machine is being used in the San Joaquin Valley that will "open up a whole new domestic and export market for California-grown alfalfa" in the eyes of its inventor.

The machine has been developed by W. E. Straight, manager of the San Joaquin Valley Hay Growers Assn., Tracy, in association with two engineer-mechanics from nearby Manteca—George Jay and Everett Rankins.

Mr. Straight calls his machine "Haypax." He developed the original idea and worked with Jay and Rankins in producing the ultimate design. Already, hay processed with the Haypax has been shipped to Hawaii with a rate reduction said to be more than 50%.

Haypax is portable, although it weighs around 6 tons. The inventor says it compresses an ordinary bale of hay to less than half its height, then slices this smaller bale in half. The result, as described by Ray H. Wolfe of the California Farm Bureau, is a half bale measuring approximately 18 by 20 by 11½ in. and weighing from 60-70 lb. "This reduced size not only saves valuable cargo space," according to Mr. Wolfe, "but also makes for greater ease in handling. The portable feature makes it possible to operate the machine from a stack in the field or at a warehouse nearest to the point of shipment."

Mr. Wolfe says the complete compressor with all equipment is mounted on a small semi-trailer arrangement pulled by a truck trailer, and is about 40 ft. long. A 110 H.P. Hercules gasoline driven power plant runs the pumps for the hydraulic ram which develops 115 tons of pressure on the hay bale. A smaller power unit provides electricity for lights and power for the conveyor that feeds the press.

A crew of five men is required to operate the Haypax. One man loads the conveyor while a second stands at the receiving table to remove wires and trip the bales into the press. A third man stands to one side to operate a slide which punches six wires past the new bale, and a fourth man stands on the other side to hook the wires and operate the controls. The last man stacks the half bales as the operation is completed.

The machine will handle from 4-5 tons of hay per hour. Operating costs have not yet been computed, as improvements in the machine and its method of working are still being made.

The first shipment by the hay growers cooperative group was made during the past year to Hawaii from the inland ocean port of Stockton, as well as from other ports on San Francisco Bay, including Alameda, Oakland and San Francisco.

Mr. Straight reports also that his association is seeking new rates both by ship and rail for shipments to eastern U.S.

He explains further that the double compression feature of Haypax causes no damage to the product itself. When the three wires are cut, the half bale expands naturally about 3 in. The small half bales are easily handled for bulk feeding or forking, Mr. Straight says, and require no shaking out.

Equipment Leasing Reported Expanding

CHICAGO—"The volume of small-business leasing is expanding at a rapid rate," said Robert Sheridan, president of Nationwide Leasing Co., Chicago.

Speaking at the recent Management Seminar for Smaller Business at the University of Chicago, Mr. Sheridan remarked: "It is quite possible that in 10 years half of the production equipment being used by firms of this size will be leased equipment."

Equipment leasing, he said, helps small business overcome the tight money situation and provides the long-term financing smaller firms need.

More than half of all equipment leases being written currently are for firms with total assets of $500,000 or less. Average length of the leases is 3.7 years.

Small business now provides almost 21% of the dollar volume of equipment leased, compared with only 11% two years ago.

Mr. Sheridan cited three reasons why smaller firms have turned to equipment leasing:

"(1) Since equipment leasing terms are normally for three years or longer, this provides long-term credit. This credit is important to small firms wishing to expand or modernize.

"(2) Recurrence of periods of 'tight' money.

"(3) Manufacturers are using more merchandising - leasing plans. This makes long-term leasing available more readily and results in a large volume of smaller lease transactions."

NEW LOADING FACILITIES

MOUNT VERNON, IND. — Mount Vernon Milling Co. plans to improve barge loading facilities by construction of a new supporting caisson 5 ft. in diameter. The firm has asked permission from the U.S. Army Corps of Engineers to start the construction.

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Red Comb Pioneer Mills is launching a new Franchise program aimed at *giving you a competitive edge in your market . . . and preserving your status as an independent businessman.* Those are important considerations.

The new program includes assistance in securing the facilities you need . . . producer financing programs allowing you to sell volume beyond your own capital resources . . . merchandising programs reducing your sales cost yet accomplishing a deeper penetration of your market . . . and products that are price-competitive and performance-competitive.

Red Comb Pioneer Mills is prepared, now, to tailor a Managing For Profit package that will provide what you want and need to *sell* feed . . . in your market . . . at a profit. It will pay you to investigate.

E. E. WOOLMAN
Executive Vice President

Our marketing plans commit us to the sale of feed through dealers. The dealer program we offer represents our best analysis of what you want and need . . . and what we can offer . . . to make a Red Comb Pioneer dealership profitable to you.

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SOME CLAIMS ABOUT PHOSPHORUS ARE TOO MUCH TO SWALLOW!

Take the subject of availability. There have been many claims that some commercial phosphate supplements are 100% available. This may be pseudo-scientific nonsense.

What do we, the suppliers of Cura-phos®, believe? What can *you* believe? Just this: Cura-phos rock phosphate, commercial dicalcium phosphate and defluorinated rock phosphate are equally good. They deliver just about the same feed efficiency. *All are equally available!* This is fact based on testwork just completed by the independent Food and Drug Research Laboratories. The results are below.

Comparison of Commercial Phosphorus Sources on a Practical Type Ration
Summarized from December 15, 1959 Report of Food and Drug Research Laboratories, Inc.

Lot	Phosphorus Source	Level Added Phosphorus	Average Gain in Weight 3 weeks	Average gms Feed per gm Gain	Bone Ash per cent*
			gms.		
A	A leading brand of Dicalcium Phosphate	0.25	264	1.69	43.73
		0.35	290	1.60	45.61
B	A leading brand of Defluorinated Rock Phosphate	0.25	289	1.66	43.56
		0.35	294	1.61	45.23
C	Cura-phos No. 1 — Composite Sample of 4 cargoes drawn in 1957	0.25	295	1.62	44.37
		0.35	299	1.62	45.61
D	Cura-phos No. 2 — Composite Sample of 4 cargoes drawn in 1959	0.25	290	1.63	43.81
		0.35	291	1.67	45.76
	Negative Control	0	187	1.87	26.25

*Average of 4 replicates of 10 chicks each. Duplicate lots of 20 chicks on each assay level. Details of report available on request.

Now then, how do you pick the "best" source of phosphorus if they're equally good? On a cost basis. That's where Cura-phos leaves the others behind. Cura-phos does everything you want a quality phosphorus supplement to do. It does everything all the others do. *And it saves you money at the same time!* It makes good business sense to use it. Many feed manufacturers have for years, do right now, wouldn't use any other. How about you? Let us send you all the facts and the arithmetic that spells out the dollars-and-cents savings that can be yours when you switch to Cura-phos. Write on your letterhead today. Without obligation.

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Washington Feed Assn. Committees Announced

SEATTLE, WASH. — Committees to serve for the current year were announced by Walt Van Horne, J. W. Feed Co., Burlington, president of the Washington State Feed Assn.

Committees are as follows:

Feed Control—Walt Van Horne, chairman; Mel Erickson, William Haley, Mark Hengen, M. V. Wolfkill and Russ Wriglesworth.

Feed Mill Production School—Walter Hartje, chairman; Leonard Abbott, Robert Adelman, Chris Hansen, Harold Herzog, Don Journey, Lowell Judd, Dave Kolden, Forrest Larson, Ed Stauffer, William Newman and A. W. Wilde.

Convention planning committee—Robert Campbell, general chairman; Leo Westerbeck, assistant general chairman; Len Hitchman, William Lucke, Bill Marks, Jack Miller, Walt Krumbholz and E. Jack White.

Convention finance committee—Don McClintick, chairman; Bev Dack, Art Hill, Karl Von Normann and M. V. Wolfkill.

Convention reception — Mike Knoth, chairman; Pete Buckton, Dave Seefeldt, Don Smith and Al Wilson.

Transportation — M. V. Wolfkill, chairman; Al Anderson, William Gee and Wayne Fuller.

Golf — Robert Walters, chairman; Robert Adelman, Jack Miller and Don Smith.

Membership — Robert Adelman, chairman; Jack Finch, Gomer Lague, Don McClintick, Al Pynor and Robert Walters.

Legislation—Robert Murphy, chairman; Jack Finch, William Gee, Lyman Judson and Wilbur Logan.

Animal industry committee — Gomer Lague, chairman; Walter Hanson, Dr. Robert Keirs, Mike Knoth, Walter Krumbholz, Dr. L. C. Pelton and Leo Westerbeck.

Report on Business

IDAHO FALLS, IDAHO — The Idaho Egg Producers Assn. enjoyed a brisk business during the first three months of this year, according to Gene Ellsworth, association manager.

In addition to handling eggs, the business includes feed sales, pelleting, molasses treating, steam rolling, grain mixing and bulk feed deliveries.

The association recently conducted an open house at its new plant.

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OPTIONAL FEATURES: Reversing mechanism is available for truck loading, or pit unloading.

WRITE, WIRE OR PHONE COLLECT for further information about the U-14 plus a full line of bulk feed bodies, bulk & sack bodies, bulk fertilizer bodies, and the new Simonsen Feedilizer, a bulk feed and bulk fertilizer body.

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Vitamin D-2 or D-3 in dry, oil or water dispersible forms.

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Stable dry vitamin A products.

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Oil soluble Vitamin protector and pigmentation aid.

HYDROPOID
Dry, free-flowing partially hydrogenated animal fat.

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For better poultry pigmentation.

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I. H. Kidd

C. C. Craighead

Carolina Milling Co. Adds Two to Staff

LAURENS, S.C.—Two additions to the staff of the Carolina Milling Co. have been announced.

Calvin C. Craighead has joined the firm as supervisor in charge of production and quality control, and Irvine H. Kidd will serve in sales service and research.

Mr. Craighead formerly was with the Southern Empire Egg Farm at Austell, Ga. He was graduated from Virginia Polytechnic Institute in 1954, and later served with Lindsey-Robinson & Co. as territory service man in north Georgia, before moving to Austell.

Mr. Kidd will serve in the department where comparative statistics will be kept from field records of production layers. These comparisons will concern strains of birds and management practices and their influence on production and profit.

Kraft Brings Holstein Heifers Into Arkansas

BENTONVILLE, ARK.—Feedmen in northwest Arkansas apparently can look forward to increased sales in coming years. The source: Expanded dairy operations from a high-key promotion program.

Backed by agricultural officials, Kraft Foods Co. is bringing high quality bred Holstein heifers into north Arkansas in an effort to improve dairy farm profits. The firm has shipped several hundred heifers into the region, and more will be brought in as the demand increases.

The plan is a step in a five-point program announced last year—a program promoting "Ozark Land Is Dairy Land" activities.

Officials hope to have an average production per cow of 10,000 lb. milk and 400 lb. butterfat. They say this would increase dairy income more than $4 million annually.

With the increase in dairy cattle numbers, feed men are looking forward to increased sales to dairy operators. And, the large Holsteins mean more feed will be needed.

The program includes:

1. Use of elevated milking parlors and other labor-saving practices.
2. Pasture improvement.
3. Production and use of better roughages and grains.
4. Adoption of herd improvement practices.
5. Promotion of "Ozark Land as a Dairy Land."

Inedible Tallow Output Predicted to Rise 6%

WASHINGTON—Output of inedible tallow and greases in 1960 is forecast at a record 3,450 million pounds—about 6% more than last year's peak production, according to the U.S. Department of Agriculture. This prediction was made in view of the prospective increase in cattle slaughter outweighing the effects of a slight drop in hog slaughter.

If the prediction is accurate, the increase would continue the sharp upward trend of the past two decades which raised apparent output from about 1,100 million pounds in 1939 to 3,250 million in 1959.

Demand was strong for inedible tallow during 1959, but output was up much more than domestic and foreign markets could absorb and stocks increased. Prices in January and February of this year averaged 5.3¢ lb. compared with 7¢ the same two months in 1959. The price outlook for the rest of 1960 indicates a relatively low level of inedible tallow prices since the cattle slaughter cycle is now on the upswing and stocks are large. USDA believes the tallow industry will be plagued with low prices for a prolonged period and no real relief is probable until livestock slaughter turns downward again.

Domestic disappearance of inedible tallow and greases in 1960 is forecast at 1.8 billion pounds, or about the same as in the past three years.

USDA says lower prices and availability of record supplies in 1960 improve our competitive position in the world tallow market and exports are expected to climb to a record 1.6 billion pounds, about 10% more than in 1959. U.S. exports of inedible tallow and greases last year totaled 1,461 million pounds, 31% more than the 1,115 million the previous year.

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COUNTRY ELEVATORS
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SINCE 1893
Have the "New Look" that means New Efficiency
Within 60 days, this new 50,000 bu. Post Grain Co. elevator was completed after Stump Construction Co., Miller, Nebraska, was awarded the contract. It has two main Columbian bolted steel 21' x 56' tanks; four 12' x 40' Columbian blending-classifying tanks and a 12' x 17' x 32' obround headhouse. Grain is received in pit under concrete drive-through; leg elevates grain at rate of 3000 bu. per hour, to head house, for gravity operation.

Want to modernize your present elevator facilities for greater efficiency . . . or build a new, modern elevator—*fast*? Post Grain Co., Naponee, Nebraska, found the answer in Columbian engineering ideas, Columbian Bolted Steel Tanks, Columbian grain handling equipment—and an experienced Columbian recommended contractor. As a result, the new Post elevator has the selling influence of the Columbian "New Look", fast grain handling efficiency for greater service and profit, and economical expandability. Post got all these benefits fast, too! The big Bolted Steel tanks were ordered on May 14th, shipped on May 27th. The strong, fire safe, vermin-proof, tight and efficient all-steel elevator was in operation in ample time for the current grain harvest! It's that kind of fine service and construction which makes Columbian Bolted Steel Elevators leaders throughout the Grain Belt.

Whether *your* requirements are for a single tank, expanded or modernized facilities or a new elevator of any capacity, it will pay you to consult Columbian. WRITE TODAY for the NEW informative booklet "Columbian Bolted Steel Elevators."

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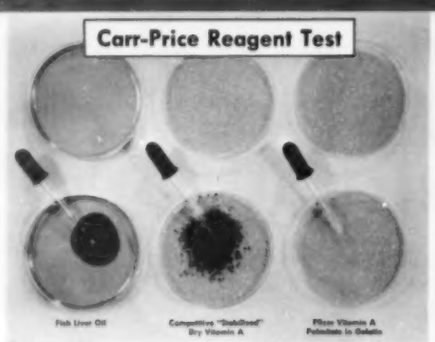
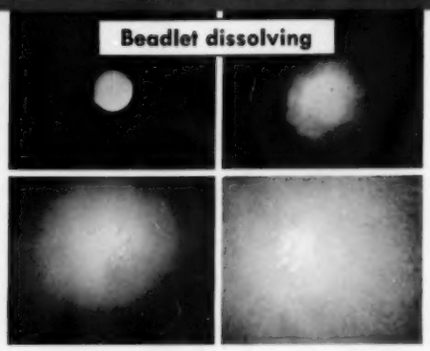
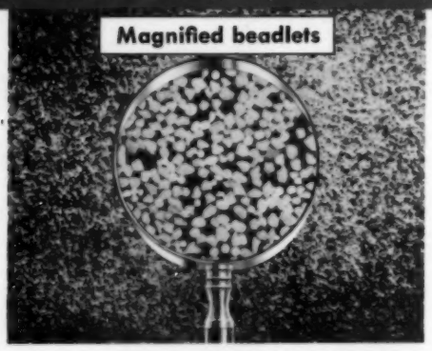
...it provides unbeatable protection ...promotes greater bio-availability ...and it's tailor-made for mixing



Fish liver oil (above) and many ordinary competitive vitamin A products react strongly . . . means some vitamin A is exposed and unprotected. Pfizer Vitamin A particles are sealed in gelatin to protect potency from oxidation.



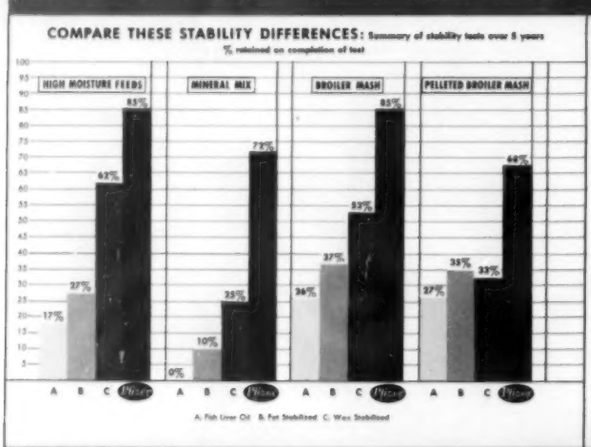
It dissolves completely in digestive fluids at body temperatures to release 100% of the vitamin A for rapid absorption. Other products with waxes may inhibit release. Those with oils are not as efficiently absorbed.



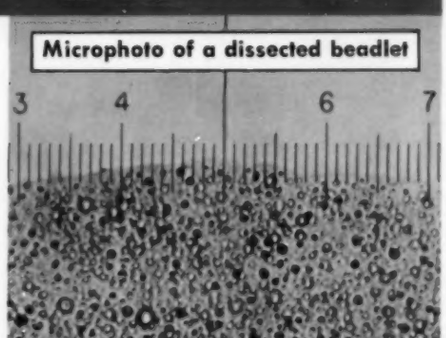
Dry, uniform, free-flowing beadlets aid in thorough distribution. Size and potency have been specially selected to facilitate the best distribution in your feeds . . . especially important with starter and pre-starter feeds.

TEAMED WITH THE HIGHEST-QUALITY CRYSTALLINE A

...unsurpassed stability in all types of feed ...most usable form of vitamin A



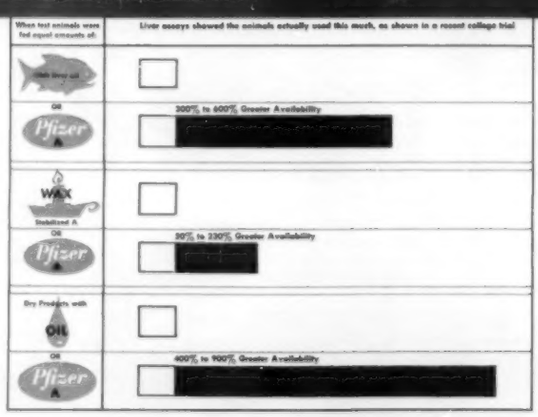
Pfizer Vitamin A retains greater potency in pelleted and high-moisture feeds, concentrates, mineral mixes, supplements, bulk feeds and range cubes. Cuts costly overfortification. Assures you of providing more vitamin A when feed is consumed.

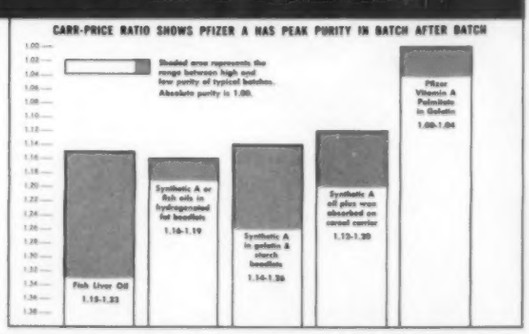


Thousands of tiny vitamin A particles in each gelatin beadlet disperse most rapidly in digestive fluids—are available for absorption at once.

...maximum biological availability ...and the highest purity

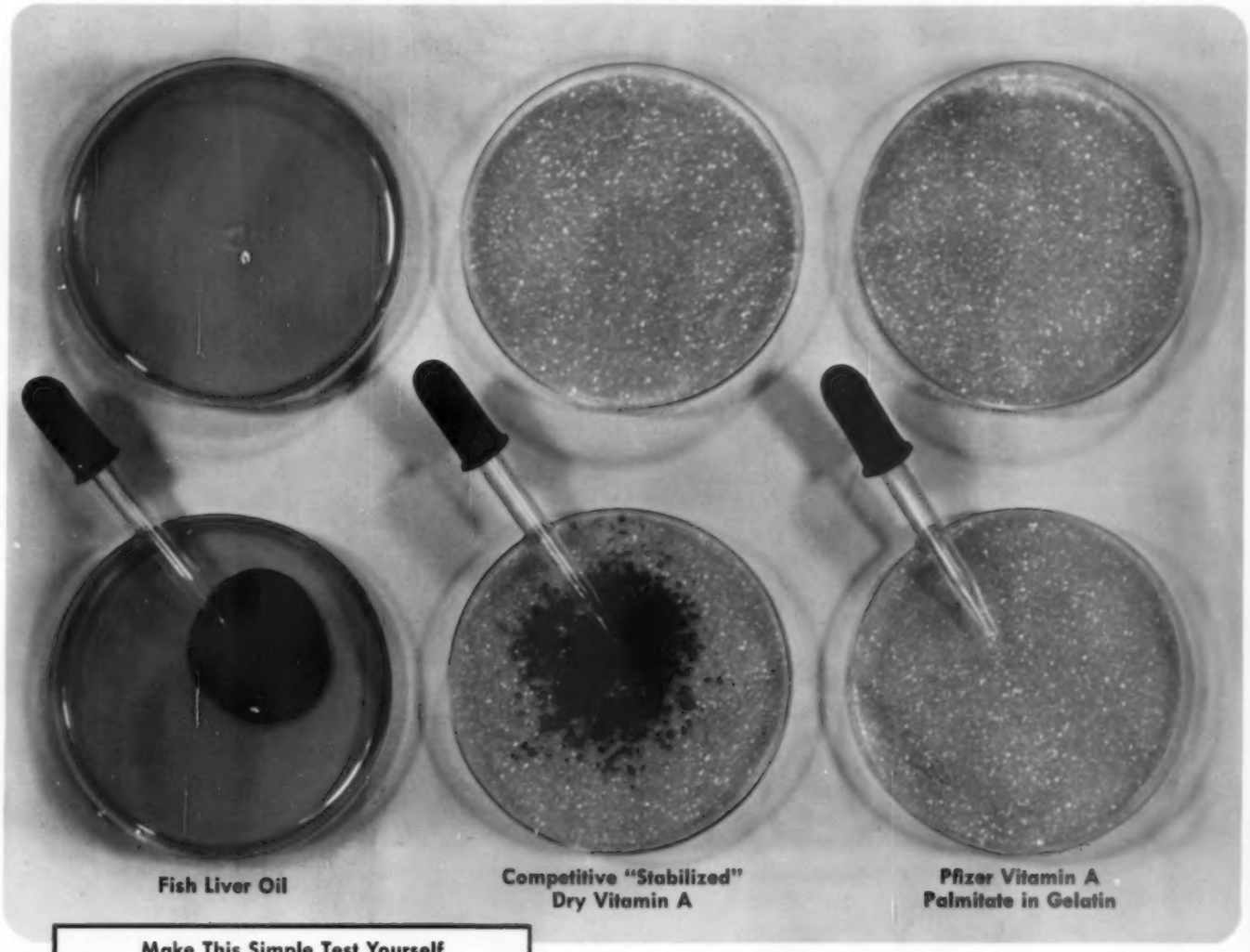
A recent college test shows Pfizer Vitamin A has availability from 300-600% greater than fish liver oils, 50-230% better than ones in wax and up to 900% greater availability than dry products with oil. Liver assay tests are the final proof of vitamin A absorption . . . show how much is assimilated and stored.




CARR-PRICE RATIO SHOWS PFIZER A HAS PEAK PURITY IN BATCH AFTER BATCH
Shaded area represents the range between high and low purity of typical batches. Absolute purity is 1.00.
Fish Liver Oil
1.15-1.23
Synthetic A or fish oils in hydrogenated fat beadlets
1.10-1.19
Synthetic A in gelatin & starch beadlets
1.14-1.26
Synthetic A oil plus wax absorbed on cereal carrier
1.12-1.20
Pfizer Vitamin A Palmitate in Gelatin
1.00-1.04

Impurities can contribute to loss of vitamin A. Pfizer, by achieving 99% purity, supplies you with vitamin A having greater stability in shipment, storage, mixing and in feed.

Gelatin Beadlet Protects ...Saves You Money



Make This Simple Test Yourself with Carr-Price Reagent

See for yourself how the unique gelatin matrix protects the vitamin A in Pfizer A. Antimony trichloride ($SbCl_3$) reacts with vitamin A in fish liver oils and most dry "stabilized" A sources to produce an immediate dark blue color. This indicates some A activity is exposed—susceptible to oxidation and potency loss.

Because the unique gelatin matrix of Pfizer A prevents contact with air and minerals as well as with the reagent, vitamin A is not exposed on beadlet surfaces . . . the Pfizer A shows no significant test.

Beyond a doubt, the Pfizer gelatin matrix is the best protection ever developed for vitamin A.

This unique gelatin matrix seals off the many *micron-size* vitamin A particles in each beadlet . . . protects them from oxidation losses due to air and minerals . . . and has special heat- and moisture-resistant properties so important in feed manufacturing.

But inside the animal's digestive tract, *all* this gelatin is dissolved—fast—releasing *all* the vitamin A for use. There's no wax or oil to interfere with absorption.

And, as an added benefit, the dry, uniform beadlets of Pfizer A simplify the addition of vitamin A to your feeds—make an easy-to-use, stable source of vitamin A.

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UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

Soybean Price Trends

What will soybean prices do this summer? This question is being asked frequently these days. Following harvest last fall the price increase indicated a close balance between supplies and utilization with a slight edge to price supporting factors. Later, market action failed to confirm this situation and "voted" the opinion that a squeeze on supplies would not develop.

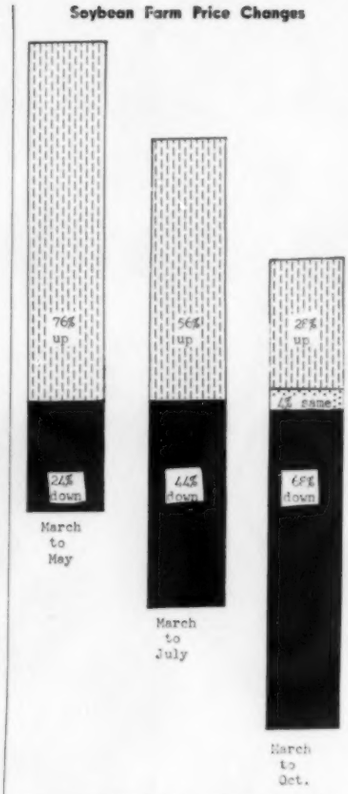
In situations of this kind it is helpful to review some past history. History doesn't always repeat because the market always is full of surprises. The accompanying chart shows you how often soybean prices have gone up or down from mid-March. U.S. average prices were used as a basis for the graph.

Here is how to read the graph: There are three bars in it. The top of the first one shows the per cent of years prices went up from March to May. The bottom of the first bar shows the per cent of years prices went down. There is a 76 in the top part of the first bar. This means that prices went up about three out of four years between March and May during the years included in the tabulation. About one in four years prices went down.

The other two bars can be read in the same manner. The months included are indicated at the bottom of the bar.

What about this season? So far the bears have had the best of the recent situation. Based on past reactions, they very well may continue to dominate with the price support program offering a less firm cushion as compared to 1959.

Market price movements of an actively traded commodity give us an over-all summary of a situation. These movements indicate that the spring of 1960 will likely see only a small upward movement of prices—if any. Unless the oil market improves, bean prices will just about hold their own. They may return cost of storage between now and August.



One word of caution. Soybean prices can be likened to a star fullback. They both can change direction in a hurry, can make several false starts to fool the observer and seldom do what the opposition believes they should.

If you are in the feed business, keep a sharp eye open for changes in the soybean situation. No one can always correctly forecast what prices will do—and it probably is just as well they can't.

N. C. Egg Group

RALEIGH, N. C. — John Hamby, manager of the egg department of Central Carolina Farmers Exchange, Durham, was elected president of the North Carolina Egg Processors & Packers Assn. at its organizational meeting here.

Other new officers include: John Clinard, Clinard Milling Co., High Point, vice president, and Carl H. Tower, manager of the poultry and egg section, North Carolina Department of Agriculture, secretary-treasurer.

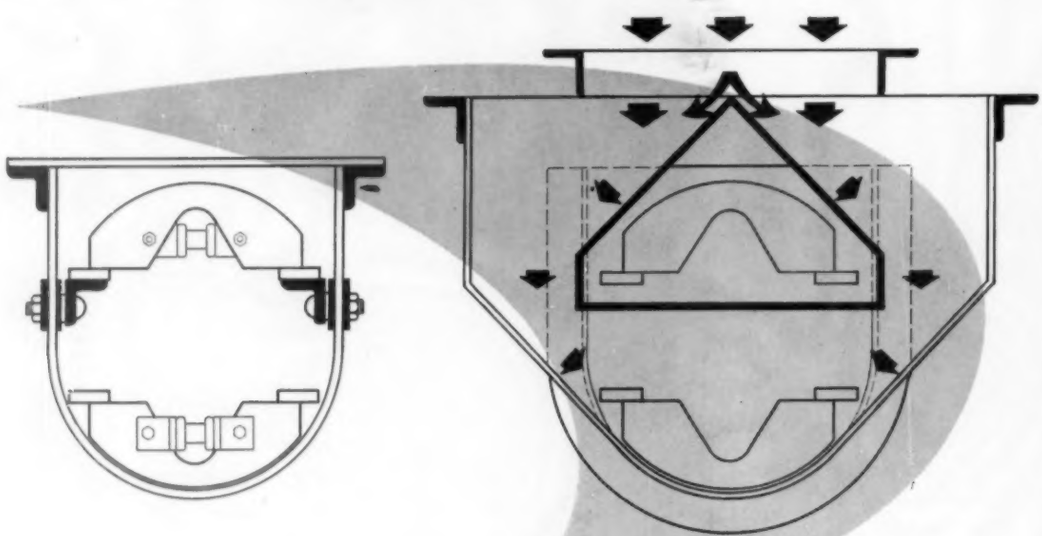
Some 21 persons attended the organizational meeting. The proposed charter and by-laws for the new group were discussed.

According to Dr. E. W. Glazener, head of the North Carolina State College poultry department, the new association's membership handles "a sizable proportion of the eggs packed in North Carolina."

FLAVOR CHEMIST DIES

CINCINNATI, OHIO—Albin Wilko, a flavor chemist in the eastern laboratory of Fries & Fries, Inc., has died. Mr. Wilko, 48, worked for more than 25 years as a perfume and flavor chemist.

EHRSAM OFFERS more than "JUST A CONVEYOR"...



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Continuous field testing and engineering research since the pilot model was introduced in 1949 have put the DRACON at the top of the class. Outstanding flight quality has been achieved by thousands of hours of grueling testing of various materials and contours.

For more information on how the DRACON conveyor can handle your conveying work more efficiently and economically, see your Ehrsam representative or write for our free DRACON brochure.

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Where only trace minerals are to be added, Herman Nagel's Trace Mineral Concentrate supplies all eight, in correct balance.

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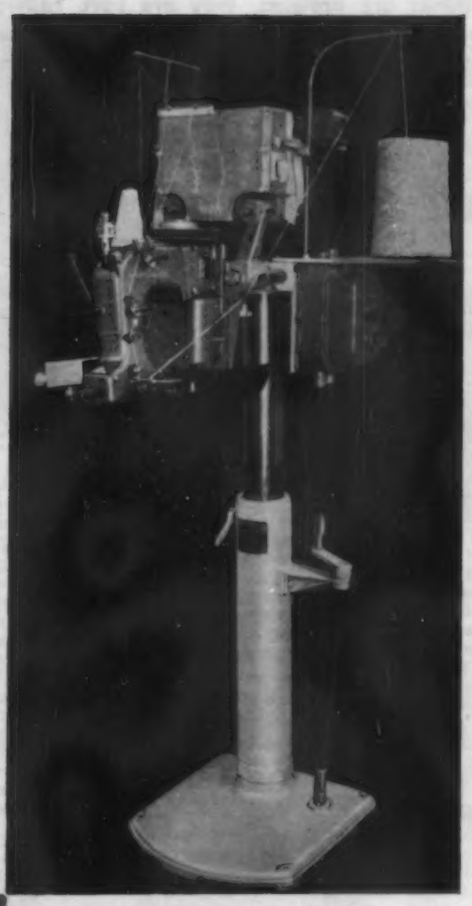
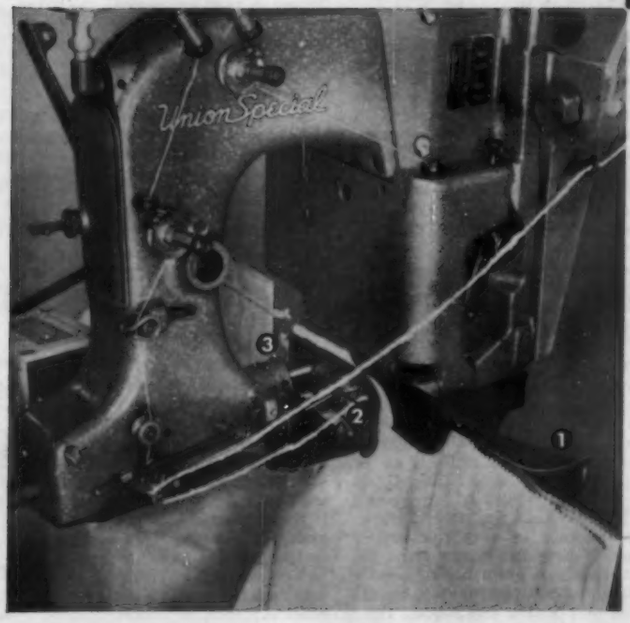
You'll get faster, uniform, trouble-free bag closing with the New Improved Bemis Sewing Machine Pedestal (with Union Special Head)



The New Improved Bemis Sewing Machine Pedestal is a development of Bemis Packaging Service . . . "Customer Center for Sewing Equipment."



Here's why...

1 The Bemis E-Xpeditor Guide forms the bag top and guides it into the sewing unit at a predetermined height so the closure is *always* straight and uniform. And it does this *faster* than you would do it otherwise... so, *speeds production.* **2** Bemis' Micro-sensitive Actuator automatically starts the sewing operation when the bag touches the actuator. No misses . . . no false starts . . . no unnecessary stops. In short—"No bag . . . no sew." **3** The Bemis Automatic *Mechanical* Clipper cuts the thread chain at exactly the right place every time . . . thus, saves thread.

Still Other Important Benefits of the New Improved Bemis Sewing Machine Pedestal

● The sewing head is easily synchronized with the conveyor through a variable speed sheave; proper tension is maintained. ● The sewing head is quickly and easily adjusted to varying bag heights. ● A portable frame is available for positioning the machine in different working areas.

Ask your Bemis Man for the *complete* story; it will pay you.

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Where flexible packaging ideas are born

The Grain Bank Has Come of Age

"Grain banks are growing, they are here to stay and they have come of age. . . . Grain banking is not a separate trend; it's part of a whole 'package of technology'."

By Glenn R. Siler
Ralston Purina Co., St. Louis

Grain bank operations vary widely in type and plan, but these differences do not obscure three generalizations which I believe can be stated: The grain bank idea is growing, the grain bank is here to stay and the grain bank has come of age.

I make these statements because of what I have seen and what I have learned while visiting many Purina feed dealers who have grinding and mixing facilities.

The growing number of grain banks is unquestionable. Grain banks are cropping up all across the country from the Finger Lakes Region of western New York to the West Coast's Yakima Valley.

For a concrete example of this growth, we'll look at the results of a Purdue University survey. This survey showed that there were 378 grain banks in Indiana alone. This figure represents half of all the dealers within the membership of the Indiana Grain & Feed Dealers Assn. Some Illinois economists have estimated that 75% of all the Illinois dealers with grain storage are running some form of a grain exchange or grain bank.

One observer said the number of grain banks are doubling each year.

I believe this growth is going to continue. Just think of the thousands and thousands of bushels of privately owned storage that is now holding government corn and wheat. Some day the government's plan will be so modified as to make storage less attractive to many, and this will make just that much more storage available for grain bank merchandising.

I believe grain banks are here to stay. They have become, at least in the Midwest, a commonly accepted merchandising technique. And I feel also that grain banks have come of age. Despite the regional variance in plans, certain ground rules of operation have been fairly universally adopted.

We all know the grain bank plan is basically a program by which a farmer will store his grain with a nearby feed dealer until it's needed for feeding. He then withdraws it ground and mixed with commercial supplement according to research formulas.

Undoubtedly this grain bank idea began with feed mill managers, who first began accepting grain for temporary storage from some of their larger grinding customers who wished to shell out and deliver a crib of corn at one time. This was a natural development that came after the war, but grain banking received its real impetus in the 1950's and I predict it will come into full bloom in the 1960's.

"Package of Technology"

Grain banking should not be considered a separate movement or trend. Actually, it's part of a number of things that have been taking place concurrently . . . and they all interact on one another. We might say that the grain bank plan is part of a whole "package of technology."

This "package of technology," which I sincerely feel has been responsible for the tremendous strides we have made over the past 10 years in obtaining greater efficiency on more farms and a higher volume per manpower unit, has under its wrapper many functions and services. It includes: (1) Receiving grain in bulk, (2) maintaining grain quality standards, (3) drying of grain for grain bank storage, (4) modern formulation of balanced rations, (5) development of entire feeding programs, (6) receiving and handling commercial concentrates in bulk, (7) storing bulk finished feeds in overhead bins, (8) bulk delivery service to the feeder and (9) self feeding of complete rations.

A sizeable capital investment is required to enable a dealer to fully offer this entire "package of technology." An example of this outlay is a modern mill which a dealer built adjacent to his elevator storage facilities in 1959.

This dealer now has: total storage capacity of 105,000 bu., a 75 h.p. hammermill, ground grain work bins, storage space for 60 tons of concentrate storage, a hopper scale with a dial, two 2-ton mixers and six 12-ton wooden finished feed bins up over his drive. This 100% grain bank mill can produce 75 tons of feed a day with but one mill operator. The dealer's present grinding and mixing income is three times what it was before modernization, and he has increased his concentrate sales to more than 400 tons.

Grain Bank Attractions

Now let's consider what makes the grain bank so attractive—first to the feed dealer and then to the feeder.

DEALER ADVANTAGES:

1. More Business from Present Customers—The grain bank program can effectively lead to more total business from present customers . . . increased grinding and mixing revenue, unquestionably more concentrate sales because of a better job of "mixing it right" and increased sanitation and farm supply sales because of an increased number of program feeders.

2. Attracts New Customers—It's naturally appealing because a dealer can talk to a feeder about benefits—saving time, labor and making more profit.

3. Ties Customers to the Dealer—As long as a dealer has a customer's grain and is reasonably rendering his grain bank services and the feeder is relatively happy with that service, the customer is very unlikely to be wooed away by competition. Grain bank business is also a more stable feed business than any other I know, except perhaps in a captive broiler business, where the dealer owns the birds himself. A grain bank operator knows and can depend upon a certain volume of grinding and mixing revenue with which he can operate his mill.

4. Leads to Milling Efficiency—Under the old bring-it-in-when-you-need-it system, feed dealers with mills often have no idea how many farmers might bring in grain to be processed on a certain morning. Under the grain bank program, when the dealer already has the farmer's grain, he needs only to call the dealer to tell him when he wants his feed delivered or when to have it ready to pick up. This allows the dealer an opportunity to schedule his production and delivery on a strict appointment basis, which helps him attain maximum production with minimum manpower.

5. Helps Get Proof Records—When a dealer does all of a feeder's grinding, sells him his concentrates and medications, he's got real proof ammunition. When coupled with the feeder's market weights, conversion figures or production total, the grinding and sales records can be turned into powerful selling information that will be testimonial to the dealer's grain bank, his service facilities and his feed brand.

Several Illinois dealers give a market value to the feeder's grain bank corn when they take out a hog ration. This is entered on the invoice so that all invoices can be totaled and cost of production can be figured.

6. Offsets Mobile Milling Competition—It's pretty safe to assume that a mobile grinder and mixer will not be able to capture the business of a farmer who has his grain stored in a dealer's bank. Having such a service available also precludes a lot of farmers putting in their own grinding setups on the farm. Through his grain bank a dealer can pre-select the better feeders who have real volume and will continue to grow.

7. Is More Profitable—Greater sales and increased service income should certainly spell increased profits if the grain bank is properly set up and well managed. This is particularly true if, through grain banking, the dealer can reduce customer turnover and improve milling and manpower efficiency.

FEEDER ADVANTAGES:

1. Saves Labor—Grain bank customers are finding the grain bank reduces their on-the-farm chores of scooping and hauling grain. And, in areas where bulk delivery service is available, they can feed their livestock or poultry "by telephone."

2. Saves Time—There is no waiting at the mill for grinding under many grain bank plans. The customer gets his load of feed and is on his way in a matter of 5 to 10 minutes.

3. Saves Grain—There is no deterioration in the quality of grain stored in a grain bank such as there might be on the farm due to weather, insects, rodents, etc. Furthermore, the farmer's grain in the grain bank is fully insured against loss by fire.

4. Is More Convenient—The grain bank plan allows the farmer to use

Glenn R. Siler

AUTHOR—Mr. Siler, manager of the Check-R-Mix department of Ralston Purina Co., St. Louis, works in the field of sales promotion with the 3,200 Purina dealers throughout the U.S. who have grinding and mixing facilities. He has traveled extensively in grain producing areas gathering information from the experiences of Check-R-Mix dealers and grain bank operators. The accompanying article is an abridgement of a talk prepared for a meeting of the Mutual Millers & Feed Dealers Assn. Mr. Siler, a native of the Midwest, is a graduate of Princeton University. He joined the Ralston Purina Co. in September, 1950, as assistant to the director of personnel. In 1955 he transferred to the Check-R-Mix department, and on Jan. 1, 1957, he became manager of that department.

Dealer Increases Grinding and Mixing Income

Beach Grain Co., Jerseyville, Ill., has increased its annual grinding and mixing income to approximately $25,000 a year by merchandising its Check-R-Mix grain bank and bulk operation. The mill's daily feed production capacity is 75 tons.

Marion M. Beach, the Jerseyville Purina dealer, has allotted 50,000 bu. of storage space to his grain bank operation. He charges 4¢ bu. for 120 days, and after 120 days charges are made at a rate of 1¢ bu. per month. His grinding and mixing charge is 10¢ cwt.

Grain storage capacity amounts to 465,000 bu. Two 70-ft. Butler tanks, each with 30,000 bu. capacity, are used primarily for Mr. Beach's grain bank operations. Of the total, 105,000-bu. space is used for grain merchandising and 300,000 bu. of storage is reserved for government storage.

For concentrates, Mr. Beach has four 8-ton Columbian bins. Finished feed is held in five 8-ton side draw Butler bins mounted overhead.

Beach Grain has a 50-ton truck scale; two overhead truck hoists; a sheller with a capacity of 1,200 bu. per hour; a 400-bu. batch drier and a bin for wet corn, and a 4,000-lb. scale that weighs grain going to the grinder.

Beach Grain Co. Mill at Jerseyville, Ill.

MERCHANDISERS—Here are samples of leaflets and other merchandising ideas feed dealers have used to promote their grain bank operations. The folders describe for customers and prospective customers the operation and advantages of a grain bank. At bottom right is a "pass book" which a dealer provides customers so they can keep track of grain deposits and withdrawals and tell at a glance what their grain balance is.

days not otherwise available for productive farm operations to transport grain to the feed mill. To get feed delivered, the farmer needs simply to make a phone call, or go to the mill and pick up his mixed ration.

5. Requires Less Farm Storage—As cribs and bins become old, obsolete or in need of repair, they need not be replaced with high priced farm storage. Similarly, temporary facilities need not be erected when grain bank facilities are available. Funds can be used as operating capital rather than be tied up in fixed assets. Grain banks offer the farmer the advantage of low grain storage rates at a spot where he is most likely to use it.

6. Improves Nutrition and Feeding Efficiency—Each animal, or bird, can get a uniform and balanced ration to be fed in accordance with a proven feeding program.

7. Simplifies Record Keeping—The farmer can easily know what it costs him to produce a pound of gain, because of the simple matter it is to keep complete feeding records under a grain bank plan.

8. Is More Profitable—A saving in labor, time and grain can be converted to dollars and cents.

Business-like Approach

A grain bank is a glamorous sounding sales builder, but at the same time, a dealer with a grain bank can lose his shirt unless he's set up on a business-like basis. For the dealer who may be considering setting up a grain bank and for the dealer who is already operating one, I'd like to suggest that he:

(1) Set up a definite grain bank policy (and then stick to it).

(2) Set up whatever specialized bookkeeping that may be required.

(3) Merchandise the grain bank by printing the policy in booklet form.

(4) Underwrite the grain bank with a real sales program.

(5) Prove the soundness of the

(Turn to page 58)

• • • • • •

12,500 Bu. Corn in Storage for Grain Bank

Prairie Feed & Grain Co., Bloomington, Ill., has approximately 12,500 bu. of corn in storage for its grain bank. Verne Erdman, manager, charges a flat fee of 2¢ bu., plus a drying fee if the farmer's grain is above 14% moisture. His grinding and mixing charge is 15¢ cwt.

One operator can turn out 100 tons of feed per day at the Bloomington mill.

Grain storage facilities include two 9,400-bu. Butler bins. The mill has four 8.6-ton Butler Bulk-O-Matic bins for concentrate storage. Four 10-ton Fitzpatrick bins are used for finished feed storage.

Mr. Erdman leases a 400-bu. batch drier. He has a 30-ton truck scale and a hydraulic floor hoist.

Prairie Feed & Grain Co.

COSTS LESS
to buy and run

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HAMMER MILL

Series 6
Direct or Belt Drive
3 Sizes: 20-75 HP

LOW INITIAL COST through simplified construction and fabricating methods. Soundly engineered.

LESS POWER CONSUMED: Exceptionally high capacity per horsepower applied. Instant screen change while mill is running avoids overloading circuits.

DOES MORE IN LESS TIME through large capacity and time-saving features of instant screen change.

LAST-LONGER UTILITY: Rugged welded steel construction. Extra heavy alloy steel shaft, supported by self-aligning, dust-proof bearings.

SPACE-SAVING COMPACTNESS: Completely self-contained. Both crusher-feeder and hopper can be permanently mounted, permitting location of mill close to wall or in a tight corner.

VERSATILE: Extra high throat and large feed opening assure efficient handling of bulky materials as well as small grains.

SAFER: No exposure to moving parts while changing screens.

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Quality control doesn't cost—it pays! Find out how this accurate, economical service can increase your feed sales.
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ANOTHER ELEVATOR *by Hogenson*
PORTLAND FARMERS ELEVATOR CO.

H. E. Lenaburg is manager of the Portland Farmers Elevator Company, Portland, North Dakota. Their modern plant is shown here. Originally quality-built by Hogenson, the six tanks at left were recently added by us.

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★ SEED PLANTS
★ WAREHOUSES

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The Approved Methods of When and How to Use
GALLIMYCIN Injectable may be safely administered to broilers, breeder hens and turkeys over four days of age. All birds, broilers, breeder hens and turkeys in the flock showing symptoms of C-R-D or other indicated disease conditions should be treated.
THE ROUTE OF CHOICE is subcutaneously in the loose skin of the neck, just behind the head. Intramuscular injections should be made only in the breast muscles.

Now You Can Get Peak Blood Levels in Just One Hour!

NEW EFFECTIVENESS—DESTROYS PPLO GALLIMYCIN Injectable—Improved is Abbott's new erythromycin compound for treating diseases of turkeys and chickens. When administered at recommended dosages, this new Injectable produces blood levels significantly higher than the minimum needed to destroy PPLO. It works fast—*achieves peak blood levels in just one hour!* Then it stays in the bloodstream—destroying PPLO (the major causative organism of C-R-D)—for many hours afterwards.

NEW LOW COST PER BIRD The high effectiveness of GALLIMYCIN Injectable makes possible low dosages and low cost per bird. For example, it costs less than ½¢ to inject a 1-lb. bird. One injection is usually adequate *for the treatment of* such poultry diseases as C-R-D (Air Sac), Coryza, Infectious Sinusitis and *to aid in the management of* Synovitis (caused by PPLO or staphylococci) and Staphylococcosis.

NEW CONVENIENCE . . . READY-TO-USE The new, Improved GALLIMYCIN Injectable now comes to you in a convenient, ready-mixed, ready-to-use solution. No measuring, no mixing . . . no fuss or bother. It is supplied in 250-cc bottles and is available now from the GALLIMYCIN supplier in your area.

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*My Antibiotic Supplier is*_____

P. S. Also send me information on your ☐ GALLIMYCIN-10, ☐ GALLIMYCIN Poultry Formula, ☐ GALLIMYCIN-TF.

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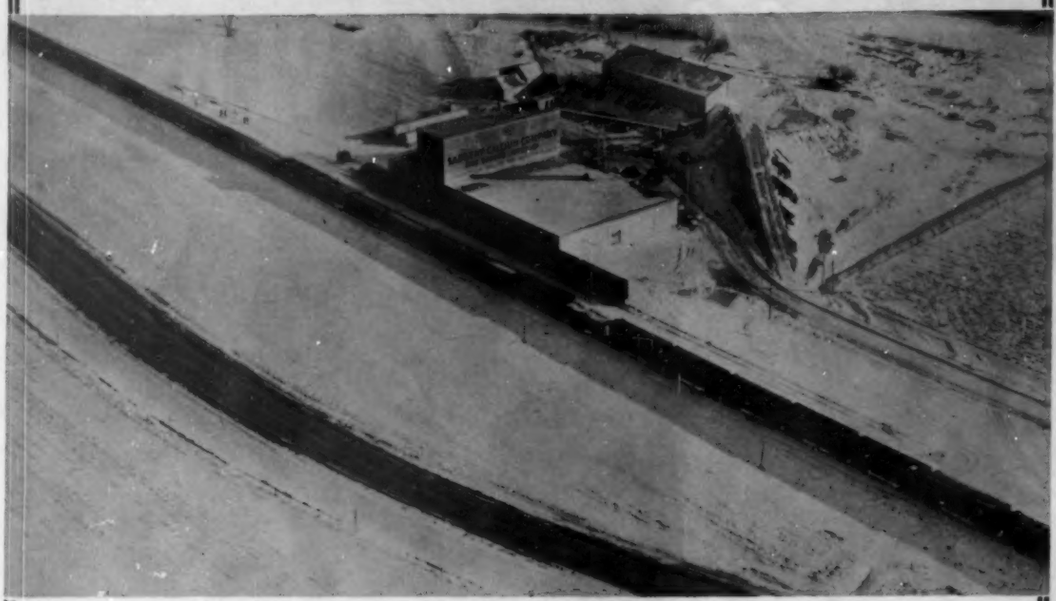

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PROOF of the satisfaction we give our customers. In 1959 the "trainload" was 40 cars. And now, in 1960 on our third anniversary shipment we can't get but half the 71 cars in the picture.

Sargent Calcium comes from Alden ledge, Alden, Iowa, where the calcium runs 99% pure; as pure as anywhere in the United States.

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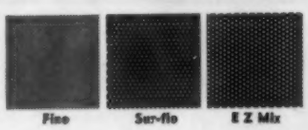

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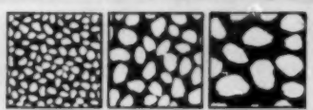

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grain bank program with proof of profitability.

The items I believe a dealer would definitely want to consider in setting up a grain bank policy include:

(1) Kind of grain accepted, (2) grain quality standards, (3) disposition of substandard grain, (4) commingling grain, (5) invitation to inspect grain, (6) amount that can be deposited, (7) converting ear to shell corn, (8) moisture and shrink adjustment, (9) charges for grain hauling; shelling and/or cleaning; drying; storage, handling, insurance and shrink; grinding and mixing, and bulk delivery, (10) withdrawal of unprocessed grain and (11) how to handle overdrafts.

Now let's go over some of the details of these policy considerations.

Kind of Grain Accepted—Shelled corn, grain sorghum and oats are the kinds of grain generally accepted for grain bank deposits. In a few areas, some wheat is taken in and in the north central areas some barley is deposited.

Grain Quality Standards—Grain bank operators everywhere stress the importance of maintaining quality standards in grain accepted and stored. Every possible safeguard must be taken by the dealer to insure only good quality grain is used in rations for grain bank customers. Most grain bank operators guarantee to return grain of equal quality and grade to the farmer in his finished rations.

Usually, the quality standard for most grain stored in grain banks is No. 2 or better by government standards. In successful grain bank operations, a farmer that brings in grain for deposit below the No. 2 standard must pay the difference between the quality of the grain and the No. 2 standard.

Although it has been found that less than a third of the operators of grain bank programs have grain dryers, operators with drying facilities usually are prepared to handle whatever quality grain is brought to them as far as moisture is concerned.

The installation of a dryer sometimes is considered a terrific extra expense, but this isn't the case if the operator is in business for the long pull.

A drier will build customer confidence because it helps dealers eliminate three of their customers' most common problems:

1. It allows the dealer to take part of the customer's grain direct from the field at harvest time when the moisture is the highest.

2. There is no discrimination among customers because everyone gets credit for putting No. 2 quality grain in the grain bank and receives the same or better quality in return.

3. There is no spoiled feed resulting from wet or inferior grain.

Some dealers are successfully operating a grain bank without having facilities for drying. However, they

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are bound to run into trouble sooner or later unless they simply refuse to take any grain that is over the maximum moisture level.

Disposition of Substandard Grain—Substandard grain can be handled in one of three ways. The dealer can refuse to accept it; he can put it in temporary storage to ship out as soon as possible, or he can clean it and blend it with good grain to bring it up to standard quality. If a dealer does take in trashy or high moisture grain, he must take extra precaution to see that none is used in grain bank rations before being brought up to quality standards.

Commingled Grain and Inviting Inspection—Grain bank operators fairly universally have said they originally were apprehensive over selling the farmers who think their grain is superior on the merits of a grain bank. They just did not want their grain commingled with others.

Leon McCorkle of Waldo, Ohio, who has 45 farmers with 65,000 bushels in his grain bank says, "Once we got started with our grain bank operation, this was no problem at all. The assurance that no grain would be stored below standard quality combined with the convenience of the plan usually were sufficient to overcome the hurdle." Farmer-dealer confidence in a grain bank operation is universally helped by merely extending an invitation to inspect the grain at any time.

Amount of Grain That Can Be Deposited—Dealers with ample storage facilities generally offer unlimited storage to their grain bank customers. They can and will accept grain any time the farmer cares to deposit it, frequently direct from the fields at harvest time.

Limited storage space dictates to a large degree the amount of grain a farmer can have on deposit. A recent study at Purdue University indicated that 56% of the grain bank operators studied had to limit deposits in accordance with a specific number of bushels or in accordance with a certain number of days' needs. Specific bushel limits, however, do not take into consideration feeders' different sizes of operations, and there now seems to be more and more of a trend to a certain number of days' storage.

Some dealers work with a feeder to determine approximately how much grain will be required. A Columbus Grove, Ohio, dealer uses a rule of thumb of 10 bu. of corn per hog and 1 bu. per laying hen.

Here's an example of how this rule works: A farmer plans to feed out 200 hogs. He figures it takes 10 bu. of corn per hog, so he'll need a total of 2,000 bu. to finish the hogs to market weight in five months. That's 400 bu. per month if the grain requirements are spread out over the period. Therefore, a dealer with a "60-days-needs" grain bank policy could allow this feeder to bring in 800 bu. of corn for deposit.

Converting Ear to Shell Corn, Moisture and Shrink Adjustment—In setting up a grain bank policy, definite methods and/or procedures must be followed to determine "shell-out" and "shrink." These should be publicly posted for the farmers' complete understanding of the policy. Converting ear to shell corn by merely using an 80% figure can be risky. It is much more desirable to weigh out the shelled corn after shelling. If this is not possible, the dealer should develop a conversion table based on his own mill's "shell-out" experience each year.

Drying rates and resulting "shrink" adjustment can be determined by using the standard "Minary Tables" as used in the grain trade.

Grain Bank Charges—While many feed dealers do not charge for their grain banks, dealers who have been at it the longest do make some kind of charge.

Many dealers who do not charge are not really operating what we call a grain bank but do have a "grain exchange." Under this kind of a set up, a farmer will trade his grain in a truck for an identical amount and quality grain that may be already ground that morning or for finished rations prepared in advance. No grain storage actually takes place but ser-

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vice can be considerably speeded up by a grain exchange of this kind.

Some dealers with very limited storage who store only for very short periods of time, store at no cost to the customer. These dealers admit there are some losses in shrinkage, milling and insurance but they believe they are more than compensated by the increased business which is brought in by the grain bank plan.

Dr. W. S. Farris of Purdue University, who conducted the 1959 survey among the 750 members of the Indiana Grain & Feed Dealers Assn. to find out what the story was in Indiana, discovered that exactly half of the members had some form of a grain exchange or grain bank. Of this total, 22% made some form of a direct charge to compensate a dealer for his costs of storing this grain —storage, handling, insurance and shrink.

Since this survey was taken, a considerable number of dealers have adopted some kind of a grain bank charge. Dr. Farris feels the percentage of dealers who now charge is more like 30-40%. Typical charges are 1@1½¢ bu. per month and 2½¢ cwt. per month or 2¢ bu., 1 lb. per bushel or a 2% "service" charge.

A typical charge for dealers with ample storage facilities who do make a charge for their grain bank is 1¢ bu. per month. This charge is based on a farmer's grain balance in the bank as of the first of each month.

A large number of dealers in Ohio and Indiana and a few in Iowa feel that a bushel charge per month of 1½¢ is more realistic for their grain bank operations. In some cases, dealers allow 100 bu. free storage or 30 days of free storage before this per bushel charge applies.

Out in the western states, grain bank charges are made on a hundredweight basis. A Kansas dealer who has operated a grain bank for 13 years charges 2½¢ cwt. per month for stored milo. This is the equivalent of 1.4¢ bu. per month.

Dealers with limited storage facilities seem to favor making a flat charge per bushel at the time the grain is deposited. A 2¢ bu. figure is particularly used in Illinois and some parts of Iowa. Some dealers in New York have used a 1 lb. per bushel charge (2.23¢ bu. equivalent with $1.25 bu. corn) or a 2% figure (2% × $1.25 = 2.5¢ bu.).

Some dealers call this a "service," "handling" or "shrinkage" charge but are particularly careful not to call it a storage charge which might involve some state statutes of a regulatory nature.

A recap of some of these typical grain bank charges on both a bushel and a ton basis is as follows:

TYPICAL GRAIN BANK CHARGES

Charge (Corn @ $1.25 bu. or $44.64 ton)	Bushel	Ton
1c bu./month	1c month	$0.36
1½c bu./month	1.5c month	.54
2½c cwt./month	1.4c month	.50
2c bu.	2c	.71
1 lb. bu.	2.23c	.80
2%	2.5c	.89

Sometimes it may seem like we're comparing apples with oranges inasmuch as shelling charges are frequently involved. In most dealerships with a "flat service" charge, shelling charges are extra. Frequently, however, shelling is included in either the grinding and mixing charges or in some other charge in those dealerships that charge on a per bushel-per-month basis.

Other Milling Charges—A definite schedule of charges must be set up to cover all the services a dealer may offer in addition to his grain bank. These milling services can include grain hauling direct from the farm, cleaning and shelling, drying, grinding and mixing and bulk delivery.

There's a tremendous variance from one region of the country to another in these charges. However, they infrequently change and many dealers include their charges in their grain bank policy writeups.

Withdrawal of Unprocessed Grain—At times a farmer may decide to withdraw some of the grain he has placed in the grain bank without having it processed into feed. Most dealers then assess a storage charge and also a "penalty" or "out" charge to discourage this practice.

Generally, a dealer will charge 1½¢ bu. per month from the date of deposit plus an "out" charge of 2@5¢ bu. In most cases where a penalty clause is enforced, withdrawals are not a problem.

How Are Overdrafts Handled? — At one time or another, a customer's "withdrawals" may exceed his "balance" in the grain bank. This is known as an "overdraft," and is permitted with some reluctance in practically all areas.

Permitting overdrafts requires much more accurate supervision and control of the grain bank because the operator can get into trouble if a farmer owes him several hundred bushels of corn and then one day he learns the farmer no longer has any corn on his farm.

As precautionary measures and to assure a continuous supply of feed for grain bank customers, most operators have very definite policies concerning the collection of overdrafts.

Here, for example, are three of the most frequently used methods being used to meet the situations:

1. Each overdraft must be met by the farmer within 10 days after the dealer's notice to the farmer that he has overdrawn his grain bank account. Failure to do this will result in a charge of ½¢ bu. per day beyond the 10-day period.

2. If the overdraft is not wiped out by a grain deposit, it must be settled in either 30 days or by the end of the month in which it occurs and at the price of grain on the day the overdraft occurred.

3. All overdrafts must be settled before newly harvested corn will be accepted. New corn will not be accepted as replacement for old corn used. New corn, generally, is accepted around Oct. 1.

Sam Wise, Altoona, Iowa, and Denver Wilson, Sulphur Springs, Ind., both avoid the overdraft problem by halting grain bank service to a customer the day the farmer uses up his grain bank balance. From that mo-

(Turn to GRAIN BANK, page 81)

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The Swift, Safe, Economical System For Handling Of Bulk Materials

Whether it's unloading bulk cars and trucks, or cleaning up flat storage buildings or bins, you'll profit from the speed, safety, and savings of an Elba-Winchdozer. Initial cost is low because Elba machines are simple and versatile – you can install them anywhere. Operating costs are low, too.

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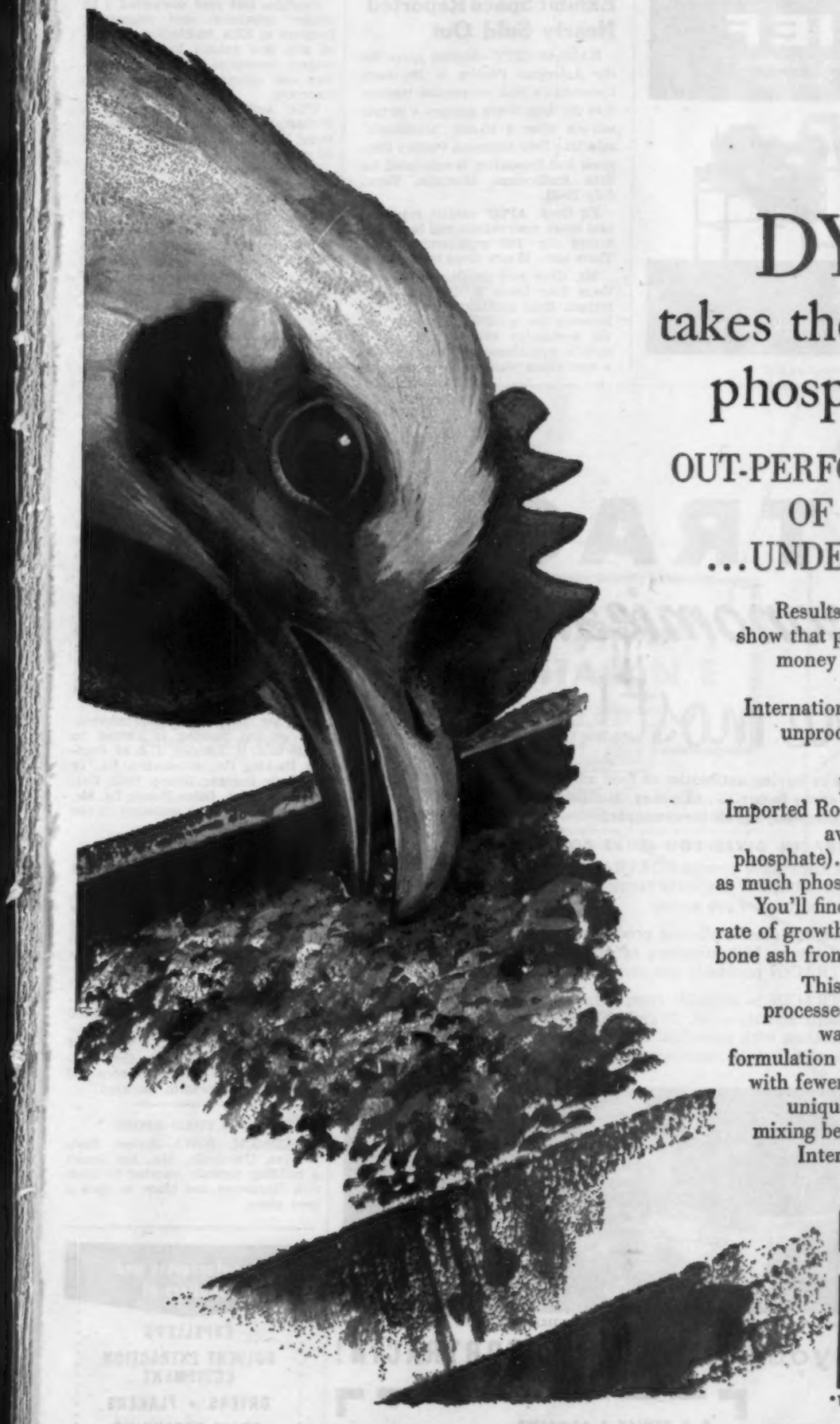

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APHF Convention Exhibit Space Reported Nearly Sold Out

KANSAS CITY—Exhibit space for the American Poultry & Hatchery Federation's first convention venture into the deep South appears a virtual sell-out after a 10-day "telephonic" sale. The 1960 American Poultry Congress and Exposition is scheduled for Ellis Auditorium, Memphis, Tenn., July 19-21.

Ed Gray, APHF exhibit manager, said space reservations had been confirmed for 168 commercial firms. There were 15 new firms in this total.

Mr. Gray said exhibits will be on three floor levels in the Ellis Auditorium. Dual escalators will operate between the ground floor level and the mezzanine exhibit hall. Heavy mobile equipment will be shown in a tent annex which is to be set up in the street alongside the north wall of the auditorium.

Memphis last year completed a $3 million expansion and renovating program at Ellis Auditorium. It added two new exhibit halls, installed modern acoustical and lighting facilities and air-conditioned the entire structure.

Ellis Auditorium is located on Memphis' main downtown business street and within walking distance of all major hotels.

Reservation can be made by writing the Memphis Convention Bureau, P.O. Box 224, Memphis 1.

This will mark the first time that the American Poultry Congress and Exposition has been held in the deep South. The 1931 exposition was held in Louisville, Ky. Hindering an APHF meeting in the southland has been the lack of exhibit facilities. The board voted in 1941 to take the 1942 convention to New Orleans, but the outbreak of World War II found the army taking over New Orleans' auditorium for a supplies depot. The convention grew too large after the war to be accommodated in New Orleans.

Poultry Convention at Baton Rouge Is Set

BATON ROUGE, LA. — The annual convention of Poultry Industries of Louisiana, Inc., will be held at the Bellemont Motor Hotel in Baton Rouge Oct. 2-4, according to an announcement by officials of the organization. Registration will begin Oct. 2 at 3 p.m.

J. H. Johnson, J. & M. Poultry Packing Co., Alexandria, La., president of Poultry Industries of Louisiana, said that a program covering all phases of poultry production and marketing is being prepared.

Anyone interested in more information on the meeting is invited to write to J. H. Johnson, J. & M. Poultry Packing Co., Alexandria, La., or to Clyde Ingram, Knapp Hall, University Station, Baton Rouge, La. Mr. Ingram is executive secretary of the poultry organization.

Georgia Firm Expands

CAIRO, GA. — Harrison & Ellis, Inc., a Cairo firm which distributes feed mills and manufacturing parts of mills, has added substantially to its operations in the metal fabricating field to serve a six-state area.

The concern, which employs about 124 persons, recently finished two additional metal buildings to add 14,000 sq. ft. floor space to serve a comparatively new market with a variety of items mostly incidental to the steadily expanding production of corn and other feed products in the area.

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HEDRICK, IOWA—Robert Stottlemyre, Unionville, Mo., has leased a building recently vacated by Hedrick Hardware and plans to open a feed store.

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FORTRACIN GIVES YOU *MORE* FOR *LESS!*

While tests have proved FORTRACIN superior to penicillin and salts of bacitracin in growth promotion, feed efficiency and stability, it's priced to save you money.

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Believe it or not, we pay you to convince yourself FORTRACIN is the new best-buy in feed antibiotics. We pay cash dollars for simple transcripts of your routine records showing results obtained with FORTRACIN in poultry feeds. For the money-making details, return the coupon today!

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Vitamin E is considered by many authorities to be an essential part of a nutritionally complete diet for chickens, turkeys, dogs, and other animals. We will be happy to send literature references on request.

The "d" means the vitamin E in *Myvamix Vitamin E Feed Supplement* is the same stereoisomer that appears in nature. 1 milligram of *d*-alpha-tocopheryl acetate is equivalent to 1.36 International Units of Vitamin E.

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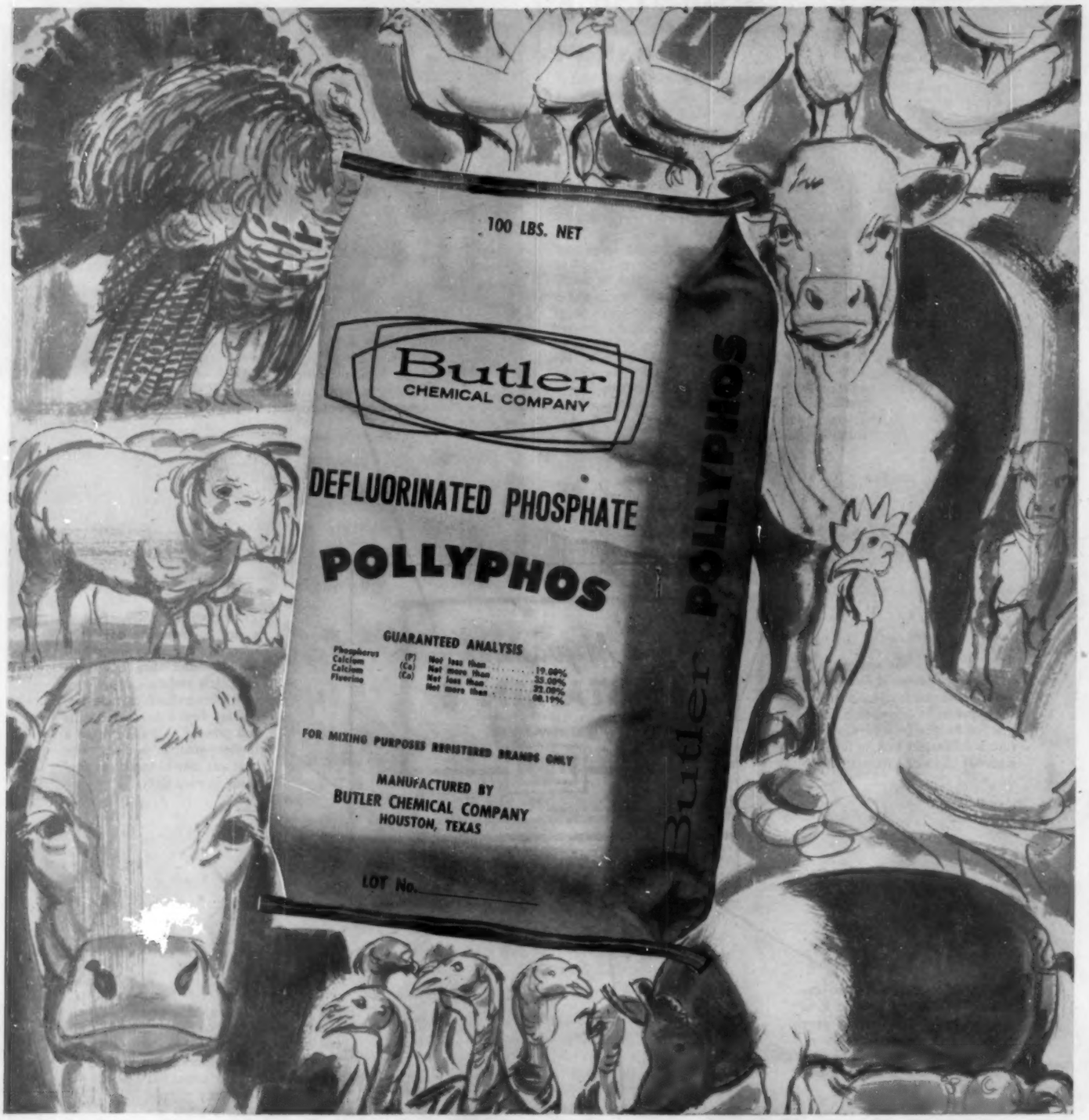
CONTAINS distilled d-alpha-tocopheryl acetate concentrate absorbed on soy grits.
20,000 INTERNATIONAL UNITS OF VITAMIN E PER POUND

The vitamin E in *Myvamix* is on a dry, non-dusting soy grits base. We use grits instead of meal because they have less fiber, less moisture, more protein, more uniform particle size, and are dusted to remove hulls and powder. All this means a higher quality product, one that's as easy to handle as anything in your mill.

With *Myvamix*, you know exactly how much vitamin E is in your feed. There's a sure 20,000 International Units of Vitamin E per pound. The cost is only a few dimes per ton of feed.

There are at least seven tocopherols which have some vitamin E activity. The most effective biologically is "alpha." That's what is in *Myvamix Vitamin E Feed Supplement*. (Only 10 to 15% of the tocopherols in corn is "alpha"—the rest is "gamma," one of the least effective of all.)

The "acetate" means that the vitamin E in *Myvamix* is really stable. Tests show no loss of potency even after storage in finished feeds for six months at 100 F. The full potency you put in the feed is there when the feed is fed.



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CALENDAR

(Continued from page 33)

W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 22-23 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry and Veterinary Science.

Oct. 4-6 — Northeastern Poultry Producers Council; Exposition and Convention; Onondaga County War Memorial Bldg., Syracuse, N.Y.; Doris Endebrock, Exposition Mgr., 10 Rutgers Place, Trenton 8, N.J.

Oct. 5-7—Texas Nutrition Conference, Texas A&M College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-12—Virginia State Poultry Federation convention and trade show; Hotel Roanoke, Roanoke, Virginia; sec., J. Paul Williams, 615 East Franklin Street, Richmond 19.

Oct. 12-13 — Association of American Feed Control Officials Annual Meeting; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Feed and Fertilizer Dept., Agricultural Experiment Station Bldg., University of Kentucky, Lexington.

Oct. 16-18—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Kentucky Hotel, Louisville; John W. Tuttle, field manager.

Oct. 16-20 — Business Management Program; sponsored by the Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

Oct. 17-18—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Bert Maxwell, Nulaid Farmers Assn., Petaluma; association office, 1400 Tenth St., Sacramento 14.

Oct. 20-21—Cooperative G.L.F. Exchange, Inc.; stockholders annual meeting; Onondaga War Memorial Bldg., Syracuse, N.Y.

Oct. 27-28—National Swine Industry Conference; University of Kentucky, Lexington.

Oct. 28—Illinois Sheep Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Animal Science Dept.

Nov. 2-3—Kansas Poultry Assn.; Brookview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 2-3—Illinois Feed Assn.-Illinois Poultry & Hatchery Federation, joint convention; Springfield Armory, Springfield; sec., IFA, Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., IPHF, Aubrey Harless, Shelbyville, Ill.

Nov. 3-4 — Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. H. H. Williams, Biochemistry and Nutrition Dept., Savage Hall, Cornell University, Ithaca, N.Y.

Nov. 9-12 — National Renderers Assn.; Statler-Hilton Hotel, Dallas, Texas; sec., Miss Jamie Fox, 30 N. LaSalle St., Chicago, Ill.

Nov. 16-17—Missouri Poultry Improvement Assn.; Hotel Continental, Kansas City; sec., E. M. Funk, Columbia, Missouri.

Nov. 16-18—Florida Nutrition Conference; University of Florida, Gainesville; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept.

Nov. 25-26 — American Society of Animal Production; Hotel Sherman, Chicago, Ill.; sec., Clair E. Terrill, Animal Husbandry Research Division, Agricultural Research Center, Beltsville, Md.

1961

Jan. 12-13—Michigan Feed & Grain Dealers Assn.; Michigan State University, Kellogg Center; sec., Nevel Pearson, P.O. Box 472, East Lansing.

Jan. 23-25—Farmers Grain Dealers Assn.; Civic Memorial Auditorium, Fargo, N.D.; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Feb. 8-9—Pacific Northwest Feed Mill Production School; Hotel Leopold, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10 — Washington State Feed Assn., annual convention; Hotel Leopold, Bellingham, Wash.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; pres., Harold M. Williams, 59 E. Madison, Chicago 2.

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DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

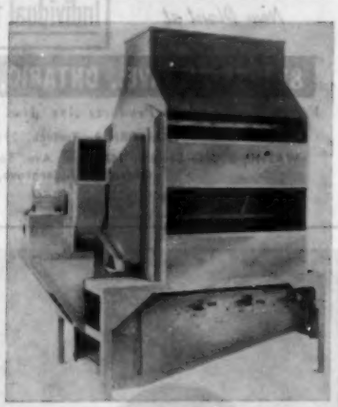
No. 7873—Egg Cooling Units

The Master-Bilt Refrigeration Manufacturing Co. announces it has redesigned its line of plug-in type egg cooling units to permit more efficient operation of its humidifying device. The units, according to company literature, maintain 75% or higher humidity in the egg cooling room by means of a "Humidicomb," a net-

work or honeycomb of water absorbent material over which water flows while the unit is operating. The Humidicomb was formerly located inside the unit, parallel with the fan and directly in the air stream. It is now installed in the side of the unit and its size has been increased. For more information, check No. 7873 on the coupon and mail.

No. 7881—Pellet Cooler

Ross Machine & Mill Supply, Inc., has announced a new pellet cooling and scalping unit, called the "T-R



Cascade Cooler and Scalper." The new cooler, while similar in design to other units, "offers numerous advantages," company literature states. "The pellets flow over a series of triangular cascades arranged within the cooler body. The cascades are made of perforated metal sheets, and excessive dust is immediately removed by the exhaust system. The pellets are inverted regularly, and, therefore, complete, even cooling is obtained. The weight of the pellets is taken up by the cascades, eliminating any difficulty in discharging the dry pellets. The entire operation can be viewed by the operator and is completely accessible; cleaning time and downtime maintenance are kept at a minimum. The unit starts on the first pellets and does not have to be full before starting. The discharge device consists of a large shaker tray with three flaps which may be regulated at will. These allow the operator to adjust the cooler to the exact capacity of the pellet machine. This eliminates the need for a compensating bin between cooler and weigher. The cooler may be fitted with a crumblizing unit of comparable capacity. The unit is now being made in capacities of 1½ to 6 tons per hour. Special sizes can be obtained ranging up to 10 tons per hour in standard units." For more information, check No. 7881 on the coupon and mail.

No. 7874—Chick Premix

American Cyanamid Co. announces a new 20% premix of nitrophenide for use in manufactured feed to aid in the prevention of losses from coccidiosis in growing chicks. Nitrophenide was chosen by the company from more than 2,000 anticoccidial compounds because of its high activity, relatively low toxicity and economy. Nitrophenide is said to allow development of lasting immunity from natural exposure or a coccidia vaccine. It has been used in feeds for broilers and replacement chicks for more than 10 years. The new premix, Nitrophenide-20, is a more convenient formulation, the company says, and will permit feed manufacturers to blend nitrophenide into feeds at less cost. For details, check No. 7874 on the coupon and mail.

No. 7872—Pneumatic Rappers

A line of Navco air "Rappers" for electrostatic precipitators and dust collectors has been announced by National Air Vibrator Co. According to company literature, the units are made with a one-piece design that eliminates 80% of the maintenance problems on precipitators and dust collectors. The units have no assem-

bly bolts to stretch and shear, or separate striking plate to leak air from the housing, the company says. Exhaust parts on both sides of the housing keep the vibrator piston centered, so housing wear is eliminated. The rappers can be arranged with a solenoid valve and timer for complete automatic control. They are made for vertical or horizontal mounting. For details, check No. 7872 on the coupon and mail.

No. 7871—Milk Replacer Base

An improved "Borden's MRB," a milk replacer base for use in special rations such as calf milk replacers, pig pre-starters and other specialty feeds, has been announced by the Borden Special Products Co. The product has a high fat content, with a base that closely parallels the nutrient characteristics of dried skim milk. The product is made by drying Borden's condensed whey solubles on soy flakes under a rigidly controlled time and temperature heat treatment. They are then ground to produce a flour-like, free-flowing feed supplement high in milk nutrient value. It is marketed in 50 lb. multi-walled paper bags. For details, check No. 7871 on the coupon and mail.

No. 7878—Lift Truck Booklet

Towmotor Corp. announces the availability of an 18-page booklet which describes the Model 590 "Naro-Aisle-Stack" fork lift truck manufactured by the company. The lift truck, according to company literature, can operate in 6 ft. aisles. The unit also performs all of the functions of a regular fork lift truck in both warehouse and factory, the company says. The entire front end

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- ☐ No. 7876—Yeast Fraction
- ☐ No. 7877—Poultry Health Product
- ☐ No. 7878—Lift Truck Booklet
- ☐ No. 7879—Grain Storage Building
- ☐ No. 7880—Large Twin Mill
- ☐ No. 7881—Pellet Cooler
- ☐ No. 7882—Iron Anemia Product
- ☐ No. 7883—Poultry Disease Pamphlet
- ☐ No. 7885—Auto Leasing Study
- ☐ No. 7886—Grain Dryer

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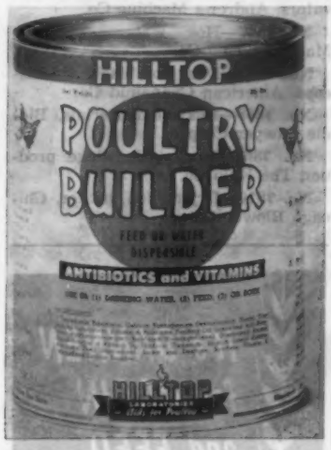
assembly of the unit pivots a full 180° permitting the machine to perform right angle stacking, on either side of the truck. Hydraulically-operated outriggers stabilize the truck laterally during the pivoting operation. The pivoting action is illustrated in the booklet. Also included are features and component descriptions. For copies of the publication, check No. 7878 on the coupon and mail.

No. 7877—Poultry Health Product

Hilltop Poultry Builder, an antibiotic, vitamin, water dispersible or feed additive poultry builder, has been announced by Hilltop Laboratories. According to the company, it was developed for the prevention and control of CRD, blue comb disease,



infectious sinusitis, hemorrhagic diseases, colds and sniffles, plus as an aid for increased egg production and faster growth for young birds. It may be used in the water or feed, or both, for all poultry. For more information, check No. 7877 on the coupon and mail.

No. 7885—Auto Leasing Study

A second revised edition of a study on the pros and cons of leasing auto fleets by industry has been made available by the Foundation for Management Research. Called "Advantages and Disadvantages of Auto Fleet Leasing: A Comparison of Company Ownership, Salesman Ownership and Leasing," the 28-page study discusses the situations in which companies are best advised to lease their auto fleets, to own their fleets outright or to use salesmen-owner fleets. Tables and charts which analyze both fixed and variable costs at different mileages and disclose effects of different plans on company earnings are included. Copies can be obtained by checking No. 7885 on the coupon and mailing.

No. 7879—Grain Storage Building

A compact grain storage building, called the Grain-Master "24," designed for 3,000 to 10,000 bu. storage, plus utility storage, has been announced by Stran-Steel Corp. A steep roof slope that closely matches the natural slope of grain, permits loading to full capacity without interior handling. The unit has a 10 ft. eave and can be had in any length of 32 ft. and longer in multiples of 16 ft.

It has the company's grain storage or drying system, all steel construction, double or single walls of steel, 10 ft. door bulkhead, roof vents, grain hatches and an end wall louver. For further information, check No. 7879 on the coupon and mail.

No. 7876—Yeast Fraction

A water soluble autolyzed brewers yeast fraction, high in total nitrogen and amino nitrogen, is available from Amber Laboratories, Inc. Called "Amber BYF Series 50," the fermentation media component contains a minimum of 10% total nitrogen, of which at least 40% is amino nitrogen. It is a dry powder, which is easy to handle and weigh, the company says. All Amber BYF products are composed of water soluble peptones, peptides, amino acids and the B vitamins and growth factors abundant in brewers yeast. The product is packed in 100 lb. fiber drums with polyethylene liners. For more information, check No. 7876 on the coupon and mail.

No. 7886—Grain Dryer

The Mathews Co. announces an addition to its line of M-C Grain Dryers. Called the Model 600B, the unit has a large drying area, with two drying columns 8 ft. by 16 ft. long and 12 in. thick, for uniform drying. It has two 36 in. fans on one drive

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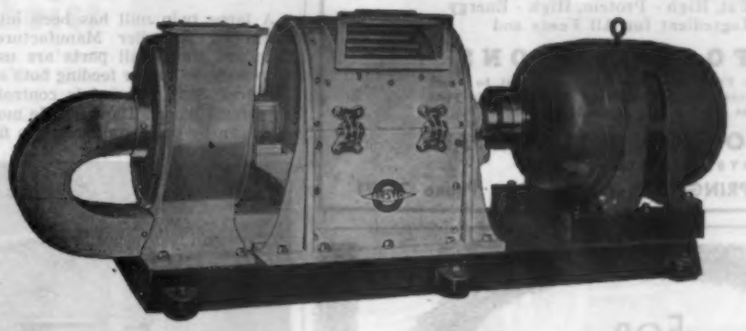

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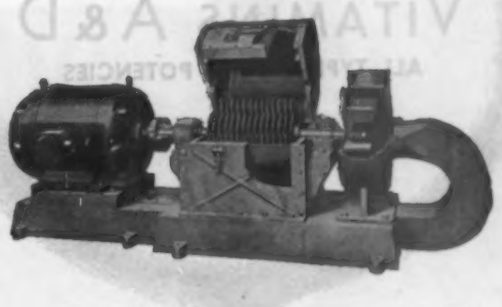

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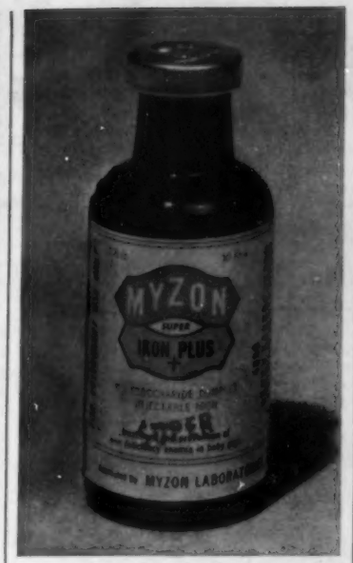
shaft—one 12 blade fan forcing hot air for drying and one nine blade fan for cooling. The grain moves constantly by gravity through the drying and cooling cycles and flow is controlled by a metering device that is guaranteed not to crack or injure the kernels of grain. It dries up to 250 bu. an hour. It will handle corn, small grain and soybeans. For details, check No. 7886 on the coupon and mail.

No. 7883—Poultry Disease Pamphlet

A pamphlet containing information on the methods of combating poultry diseases has been made available by Delaware Poultry Laboratories. Called "DPL Vaccines and How to Use Them," the publication describes the more common viral respiratory diseases of poultry and lists the various uses of the company's vaccines for immunization. The disease entities covered are Newcastle disease, infectious bronchitis, fowl laryngotracheitis and fowl pox. Included is information on the cause of disease, species of fowl infected, incubation periods, rates of spread and symptoms. A separate section deals with special vaccination programs. For copies of the pamphlet, check No. 7883 on the coupon and mail.

No. 7882—Iron Anemia Product

Myzon Laboratories announces "Super Iron Plus," developed to combat iron deficiency anemia in baby pigs. According to the company, an injectable iron of high potency is injected into the ham of a baby pig four or more days after birth. Even a small dose of 2 cu. cc provides an almost immediate rise in the hemoglobin count and has a marked effect



on the pig's health and consequent resistance to diseases, the company said. The company has added vitamins and trace minerals to the elemental iron contained in the small injection. For more information, check No. 7882 on the coupon and mail.

No. 7880—Large Twin Mill

A large twin mill has been introduced by Knoedler Manufacturers. Standard single-mill parts are used, with a single hopper feeding both sets of burrs. Size of grind is controlled by a hand wheel. The portable model is driven by power-take-off of a five-

plow tractor, and the stationary model by a 50 h.p. electric motor. Capacities include 1,200 bu. an hour for shelled corn, 600 bu. an hour for ear corn and 300 bu. an hour for small grains and cobs. For details, check No. 7880 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7836—Poultry supply catalog, Anderson Box Co.

No. 7837—Corn sheller, Bryant Engineering Co.

No. 7838—Whey block promotion, Western Condensing Co.

No. 7839—Disposable pallet, Union Bag-Camp Paper Corp.

No. 7840—Corn sheller brochure, Belle City Manufacturing Co., Inc.

No. 7841—Management booklet, Hess & Clark.

No. 7842—Mill modernization, Paul Berg.

No. 7843—Bulk feed equipment, Curl Engineering & Manufacturing Corp.

No. 7844—Feed flavor premixes, Taste Engineering, Inc.

No. 7845—Milk replacer promotion, Blatchford Calf Meal Co.

No. 7846—Grain car unloader, Superior Separator Co.

No. 7847—Moisture resistant salt, Carey Salt Co.

No. 7848—Poultry feed additive, Borden Special Products Co.

No. 7849—Antibiotic supplement, Dr. Salsbury's Laboratories.

No. 7850—Mold inhibitor, E. I. du Pont de Nemours & Co., Inc.

No. 7851—Silage flavor display, Flavor Corporation of America.

No. 7852—Dust filter, Day Co.

No. 7853—Bulk handling bulletin, Fuller Co.

No. 7854—Electric vibrator, Cleveland Vibrator Co.

No. 7855—Egg promotion brochure, Hess & Clark.

No. 7856—Mounted 'Swivel-Piler,' Stephens-Adamson Manufacturing Co.

No. 7857—Magnet pulley bulletin, Stearns Magnetic Products.

No. 7858—Dust control brochure, Dracco Division of Fuller Co.

No. 7859—Level indicators, Fuller Co.

No. 7860—Feed value folder, Doty Laboratories.

No. 7861—Bag closing machine, Bemis Bro. Bag Co.

No. 7862—Nutrient level card, Peter Hand Foundation.

No. 7863—Grain moving machine, Dunbar-Kapple, Inc.

No. 7864—Single-roll crusher, C. O. Bartlett & Snow Co.

No. 7865—Catalog on bucket elevators, Andrews Machine Co.

No. 7866—Hog waterer, Brower Manufacturing Co.

No. 7867—Drug for blackhead disease, American Cyanamid Co.

No. 7868—Enzyme materials, Biddle Sawyer Corp.

No. 7869—Enzymatic silage product, The Kalo Co.

No. 7870—Drying fan, heater, Chicago Blower Corp.

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Research on TDN in Dry Calf Starters Cited

FARGO, N.D.—"It appears that dairy calves can be raised as satisfactorily when the whole milk feeding period is limited to six weeks, if the dry calf starter has a total digestible nutrient content of 75-77% and the calves are receiving good alfalfa hay," according to North Dakota Agricultural College researchers.

Charles G. M. Edgerly, assistant dairy husbandman, and Dr. C. Jensen, dairy technologist, reported results of research on total digestible nutrients in dry calf starters in the North Dakota Farm Research, bimonthly bulletin.

Infant dairy calves were fed a standard type dry calf starter, formula 31, as a supplement to an eight week whole milk feeding period. Other infant dairy calves were fed dry calf starters of a higher digestibility, formulas 40, 41 and 42, as a supplement to a whole milk feeding period of six weeks. All calves received good quality alfalfa hay in addition to the starter and the whole milk.

The researchers said calves receiving the dry calf starters of higher digestibility and whole milk for only six weeks had gains "not significantly different from calves that received dry calf starter of a lower digestibility and whole milk for an eight week period.

"Differences between the amounts of total digestible nutrients consumed for each pound of gain by all calves were of no practical significance," they said.

AUCTION BARN PLANNED

FT. SMITH, ARK.—Fort Smith (Ark.) Stockyards Co. has announced plans for a $75,000 public livestock auction barn. The barn will have concrete bleachers for seating 560 persons. There are no public cattle sales at the stockyards now.

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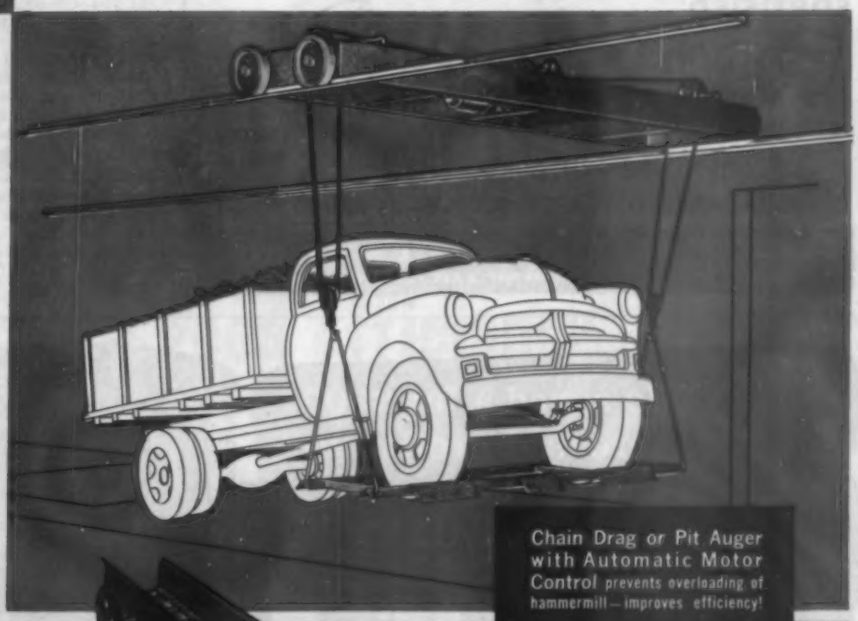

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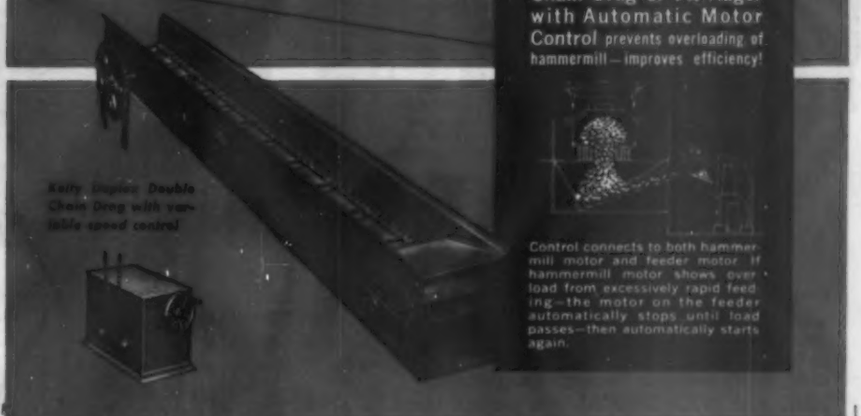

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FEEDSTUFFS

JOE BROOKS

BY AL P. NELSON

Not a Leg To Stand On

When Henry Titus came in from plowing late that April day, his legs were heavy with fatigue. But this was the season when plowing had to be done, fatigue or not. Heavy snow that had melted late leaving soggy ground had delayed plowing as it was. Lucky he had plowed some last fall, he thought.

"Martha," tall, lanky Henry called as he washed in the bathroom off the kitchen. "Got dinner ready? Guess I'll eat and go back and plow a little more by headlight."

"Oh, do you have to?" his plump, rosy-cheeked wife asked. "You're workin' awfully hard, Henry. You're not as young as you used to be."

"Don't remind me," Henry said wearily.

He sat down at the table with the clean red-checkered cloth and surveyed the roast beef, brown gravy and baked potato. "I feel better already," he said cutting a piece of beef and chewing it.

"Read Joe Brooks' crazy ad this week while you eat," his wife suggested, bringing a folded copy of the local newspaper to the table. "If that man don't beat everything—"

Chewing enthusiastically, Henry Titus picked up the paper and studied Joe Brooks' half page ad. "Why is the left leg of the chicken more tender than the right one?" he growled. "Hey, I never knew that, Martha."

"I didn't, either, Henry. I think Joe is just joshing, don't you?"

Henry frowned and scratched his day-old beard. "Well, I dunno. Joe ain't one to waste his money on jokes. He wants return on the money he spends. And it costs money to advertise. Looks like Joe and Happy's Lunch are in on this idea."

"If you ask me," said his wife, "it is just an idea to sell more chicken. Happy is offering a chicken dinner with a chicken left leg for $1.10 and a dinner with a chicken's right leg for $1. He and Joe invite people to try both kinds of dinners, and then tell them why the left leg of a chicken is more tender than the right leg."

"Huh," grunted Henry, "and I see where Joe and Happy offer a free chicken dinner once a month for two, 12 months a year for the person who comes in first with the correct answer."

Martha coughed. "Henry, I wish we knew the answer. Just think, if we won, I wouldn't have to cook a Sunday dinner for us. We could go right into Happy's and get a big chicken dinner free."

"Left leg dinner or right leg dinner?" asked Henry.

"Oh, it wouldn't matter," said his wife, "so long as it is a free dinner. Henry, you're so smart in most things. Why is a chicken's left leg more tender than the right leg?"

Henry got irritated, just as he always did when he didn't have the right answer to something. "Oh, I don't know, Martha. It's a silly question. You women are too darn curious."

"I think I'll have a chicken dinner tomorrow, Henry. You can eat both legs and test this question. Eat the right leg first and then the left. And compare."

"Oh, for Heaven's sake," burst forth Henry. "It's not that important, is it? Why get so excited about the legs of a chicken?"

She Wants to Know

"But I want to know the answer," his wife persisted. "Something like that is interesting. Gives me something to think about besides house and barn chores day after day. There must be a reason for this contest." Her eyes lighted, "Henry, you don't suppose that there is some special new ingredient in Joe's feed that goes into the left leg of a chicken and not into the right leg?"

Henry snorted. "Of course not. When a chicken digests the food, the nutrients go into the blood. And the same type of blood goes into the right leg as goes into the left leg."

The phone rang and Martha answered it. "Oh, hello, Jane. Yes . . . I saw the ad. Henry and I were just talking about it. No . . . we don't know why a chicken's left leg is more tender than the right. Isn't is exasperating? And we won't find out for 10 days. No matter who turns in the right answer, the contest runs for 10 days . . . Yes . . . I'll bet that's it. Happy wants to sell all the chicken he can during that 10 days . . . "

Martha hung up again. "You see, Henry, lots of people are interested in that contest. Oh, I wish I knew. I'm going to phone the county agent right now. Maybe he has the answer. We taxpayers have a right to pick his brain."

"Hey, don't waste your time," Henry shouted, getting up, a toothpick in his hand. "When women get an idea in their heads, they just never give up."

But Martha didn't hear him. She was phoning the county agent at his home. Bob Bogarth, the county agent, was polite. No, he had no idea that a chicken's left leg was more tender than the right one. About 20 people had already phoned him on the subject. Sorry, he didn't know the answer.

"You see," Henry pointed out. "Joe knows it's a tough question. He's got

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"Run up and tell that ignoramus to use the conveyor!"

an answer all right. He'll just make folks dig and dig for the answer."

If Mrs. Titus were a man, she would have been chewing her fingernails. But she was a woman, so she just pouted. It was plain to see that she was frustrated. And a frustrated woman can be dangerous at times—and persistent.

"I know what I'll do," she said. "I'll phone the editor of that Midwest Egg Magazine at Chicago. He ought to know." She headed for the phone.

"Long distance?" cried Henry. "Write a letter. It's cheaper."

"There's no time," Martha said excitedly. "Remember, other people are working on this, too."

Martha shook her head. She got out a copy of the Chicago egg paper, scanned the masthead for the name of the editor and put in a call. It took some time, because information had to check on the editor's home and phone number. Henry, amazed by the persistence of his wife, took another cup of coffee and waited.

Finally, information located the editor—at a convention bar. Martha had to shout loudly, for the din was terrific.

She explained her dilemma. "Why," she asked, "is the meat on a chicken's left leg more tender than the meat on the right leg? I've got to know for this contest."

This apparently was a tough question for the editor. He took time to think. Meanwhile, Martha got a free rendition of the St. Louis Blues by a jazz band over the phone.

Then suddenly she squealed with delight. "Oh, perhaps that's it! Thank you, thank you, Mr. Scherkenbach!"

She hung up and suddenly went limp. "Well," said Henry, "what is it?"

Martha smiled wanly as she caught her breath. "Who's curious now?"

"Quit it. I've got to get back to plowing. What's the reason for the left leg being more tender than the right?" he asked.

Martha smiled. "That foxy Joe Brooks. He reads a lot and files lots of information. I've seen him use those files. Well, this editor says he heard at a convention one time an agricultural station speaker say there is quite a bit of evidence that the meat on the left leg of a chicken is more tender than the meat on the right leg because—" She caught her breath again.

"Because—"

Martha smiled. "Because this man said chickens stand on their right legs more than they do on their left legs. Logical, isn't it?" And she began to laugh unrestrainedly. "Oh, I'm going to call in my answer to Joe Brooks now, so I'll be first. I wonder if he'll buy me a new spring hat just to keep quiet about my answer until the 10 days are over."

"Women!" growled Henry Titus, slapping on a battered felt hat. "I'm goin' back to plowin'. That's somethin' I understand."

FEED STORE CLOSES

RICHLAND, ORE. — The Baker Mill & Grain Feed Store of this city recently closed. The operators, Mr. and Mrs. Ermyn Mills, said the business lacked the necessary volume.

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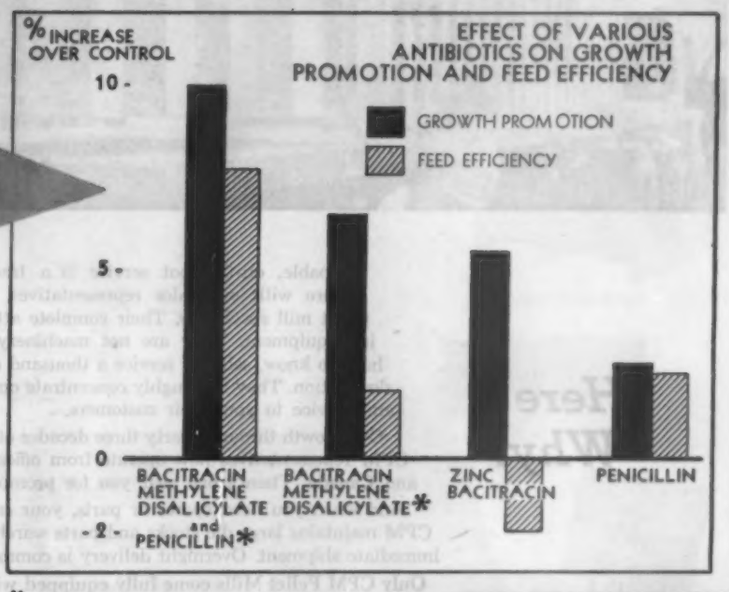

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ASL Sales Supervisors

MADISON, WIS.—Appointment of five regional sales supervisors for American Scientific Laboratories, Inc., has been announced by Warren B. Lambert, sales manager of animal health and sanitation products.

Robert A. Berry, Sr., St. Michaels Md., is supervisor of New England and the central eastern states. Roger McIntosh, Covington, Ga., supervises the southeastern states area. A. S. Kauder, Alamo, Cal., is supervisor for the west coast and inter-mountain states, and Aron Kvalheim is in charge of the west north central states area.

Edward Calabrese, Park Forest, Ill., is the new supervisor for the east north central states, succeeding Ned Laugharm, who is leaving the company because of health reasons. Mr. Calabrese was transferred from the firm's feed additive line last January.

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"And this, I suppose, is one of those hideous caricatures you call modern art."

"Nope, that's just a mirror."

◆ ◆ ◆

A fellow who had had one too many was driving the wrong way on a one-way street and was hailed by a cop who rasped, "Hey, didn't you see the arrows?"

"Honest, offisher," gurgled the driver, "I did'n even see the Indians!"

◆ ◆ ◆

Three-fourths of the earth's surface is water and only one-fourth is land. It's clear the good Lord intended a man should spend three times as much time fishing as he does plowing.

◆ ◆ ◆

In a small town, the sheriff was also the vet. Late one night he received a frantic phone call, "Do you want me as sheriff or vet?" he asked.

"Both," came the reply, "We can't get our dog's mouth open . . . and there's a burglar in it!"

◆ ◆ ◆

Old Timer: My father was a great western politician in his day.
Friend: Yes? What did he run for?
Old Timer: The border.

◆ ◆ ◆

Man in restaurant to waiter: "What's the offense? We've been on bread and water for almost an hour."

◆ ◆ ◆

Announcement before a Trans-Atlantic jet flight: "Ladies and gentlemen, welcome aboard flight 702 . . . This is your captain speaking from the flight deck. We'll be cruising over the Pacific ocean at 35,000 feet this afternoon at an estimated ground speed of 730 miles an hour . . . We'll be carrying 144 passengers, 335,000 pounds of cargo . . .

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◆ ◆ ◆

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CONFERENCE

(Continued from page 24)

There has been more research on this with beef. It was suggested that difference in total energy requirements may be a factor. The ratio of concentrates to roughages may be a factor.

Q. What is the desirable level of fat in the grain ration? Does the cow have a minimum fat requirement?

A. High levels of fat in the ration decrease palatability and are an expensive source of energy. Virginia standards require a minimum of 2½% fat. Some feed men experience difficulty in meeting these standards. There is some question as to the need of minimum standards. Total energy may be more critical than fat.

Q. Would whole cottonseed be a good source of fat?

A. Whole cottonseeds are high in fiber and difficult to grind.

Q. Would whole soybeans be a good source?

A. Probably the best source. There is a problem of rancidity in warm weather. Ground raw soybeans cannot be used in a mixture containing urea because of the urease in the raw bean.

Q. Are peanut hulls a good source of fat?

A. No.

Q. Why is net energy not used as a measure of energy for dairy feeds to the extent it is used in poultry?

A. TDN values of feed for dairy animals are available. Net energy values are calculated. TDN values are the best we have for comparing different concentrates and for comparing different forages. Net energy might be a better way of comparing concentrates with forages.

Q. Aside from the possible fat-depressing effect from feeding pelleted rations, will we go to all-pelleted rations?

A. The trend seems to be in this direction. It will increase if it can result in the least cost ration.

Q. What is the value of wafering hay.

A. There seems to be no nutritional advantage for dairy cows. More research has been done with beef than dairy. It is still in the experimental stage. To date there has not been a suitable and economical machine developed for eastern conditions.

Q. What is the reason for low solids-not-fat in milk?

A. Breed of animal has the greatest influence. Underfeeding may cause a decrease in solids-not-fat, but overfeeding will not increase it.

Q. What is the difference between a 16% grain ration with and without urea?

A. The value of either ration is determined by its ingredients. Urea should be used as any other good ingredient. Including urea with poor quality ingredients does not make a good feed. Its use with good ingredients makes a good feed.

Q. Does urea reduce the length of lactation?

A. No. This is just an old wives' tale.

Q. Is 16% protein still the recommended level?

A. No. Protein level in the grain ration should be determined by quantity and quality of forage fed.

Q. To what extent is Morea used in Virginia?

A. Some is being used for beef feeding. It is a good feed but is not economical for milking herds. In New York studies, it did not increase hay intake or raise butterfat test.

Q. What is the relative value of protein supplements?

A. Distillers dried grains first; soybean meal next, followed by coconut meal, which produced less milk but higher fat test. Dried brewers grains, rye distillers dried grains and corn gluten feed were next. Linseed oil meal was last. The reasons for the differences are not clear to date.

SWINE, BEEF CATTLE AND SHEEP — George W. Litton of VPI moderated the discussion. Panel members were Dr. C. C. Brooks, R. M. Godsey, Dr. J. P. Fontenot, Curtis Mast, Dr. R. F. Miller, all of VPI; Dr. J. K. Loosli, Cornell; Dr. A. C. Rogers, Smithfield (Va.) Feed Mills; Dr. William H. Hale, Chas. Pfizer & Co., Inc.

Here is a summary of questions and answers:

Q. Will disease-free pigs become a reality in Virginia?

A. The outlook for their success at present on farms in Virginia is poor because of the many carriers of disease that exist.

Q. Does feeding high levels of iron to the sow prevent anemia in the pig?

A. No.

One panelist felt that in addition to iron injections for the pig, some dirt should be put in the pen. Another mentioned that two shots of iron are advisable.

Q. What is the benefit of zinc in swine rations?

A. Zinc is required for normal growth and proper skin and bone development. When the calcium level is not above 0.6%, 20 to 25 ppm of zinc in the ration is adequate. When higher levels of calcium are fed, more zinc is needed. When the calcium level is excessive (1% or above), zinc will not always prevent growth depression or poor feed conversion associated with parakeratosis although it may prevent the typical skin condition.

Q. Is there a danger of copper toxicity from high level feeding of copper in swine rations?

A. Yes, although the levels in commercial feeds do not approach a level that would be dangerous.

Q. When fat is fed to swine, what is the relative efficiency of the fat in relation to other feed components in terms of calories?

A. No exact tests have been run when fed at different levels. However, at low levels in high fiber rations, it appears to be utilized as efficiently on a calorie basis as corn.

Q. What is the current status of

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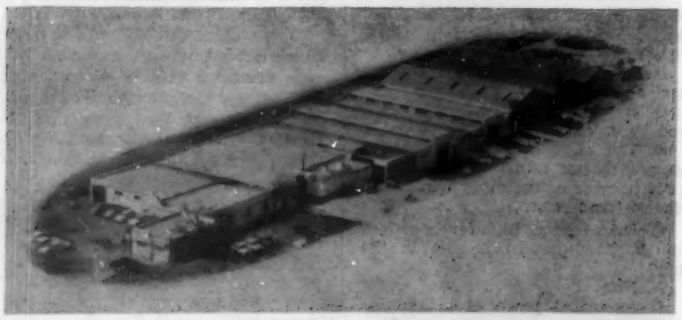

NEW PERMA-WELD PLANT—This is the 50,000 sq. ft. building in Topeka, Kansas, purchased by Perma-Weld Co., Inc., manufacturer of roller shells and replacements parts for pellet mills. The building was owned by Koehring Co., Milwaukee. Perma-Weld now manufactures replacement rolls for feed pellet machines, along with a wide range of hardfacing.

tranquilizers in animal production.

A. College tests have shown varied results. In large feedlots of the West, feeders feel a tranquilizer is beneficial.

Q. What is the basis for large gains on cattle fed pelleted roughage without grain.

A. Results of slaughter data indicate that many of these steers are not fat and do not dress high. This indicates that these high gains are not carcass gains.

Q. Does pelleting lower digestibility of feeds in ruminants?

A. In some cases a lowering of digestibility of fruit fiber has been observed, but an increase in digestibility of ether extract has been shown.

Q. What is the status of stilbestrol implants in cattle in view of the FDA ruling on poultry?

A. There has been no change in the status of implants for cattle under federal law. In Virginia, sale of implants is legally prohibited except through veterinarians.

Q. Are many feeders feeding complete pelleted rations to beef cattle?

A. The large feedlots are not now pelleting their rations. They say it doesn't pay. It has been reported that where feeders have been using "complete" pellets, many also feed some long hay.

Q. What is the advisability of antibiotics in feeder lamb rations for more than a two-week starting period?

A. Response of feeder lambs has been variable. At the Virginia station, no response was obtained when used in two trials; in Virginia, except for the two-week conditioning period, antibiotic use does not appear to be warranted.

Q. What is the relationship of rumen parakeratosis and pellet feeding?

A. Colorado workers reported that lambs fed pelleted feeds had a higher incidence of this condition than those fed non-pelleted rations. Virginia trials of 1958-59 showed that 42% of lambs fed pellets had rumen parakeratosis, while in another trial little or no parakeratosis was observed. (The pellets were made at different places and were of different size, it was said in answer to a question.) In some cases, fine grinding will cause this, just as fine grinding for pelleting has caused it. In other cases, fine grinding does not cause the condition. The problem needs more study.

Q. Can ground ear corn be used profitably in growing swine rations?

A. Yes, if the pigs weigh more than 100 lb. and the cost of shelling is not great. It will lower rate of gain and carcass fat. The type of pig used will determine whether this latter is desired.

Plan Packing Plant

DENISON, IOWA—A campaign to organize Iowa Beef Packers, Inc., here was started at a public meeting, with Walter Morrison and Dr. Robert Logan as co-chairmen of the stock selling program.

The program provides for a $750,000 plant expected to be in operation by Jan. 1. A slogan for the campaign is "A farmer a day is moving away—build a plant and let him stay."

A similar move was made in 1957 with the formation of Crawford County Packing Co. which raised $297,000. That industry was in operation a year and a half when it was sold to Consumers Cooperative Assn. of Kansas City. A. D. Anderson, Denison, initiated the first project and is active in the current program.

OPEN HOUSE HELD

LONE ROCK, IOWA — An open house and appreciation day were held recently by the Lone Rock (Iowa) Cooperative Exchange, managed by Lawrence Geitzenauer. The event was staged in conjunction with the new feed mill recently completed.

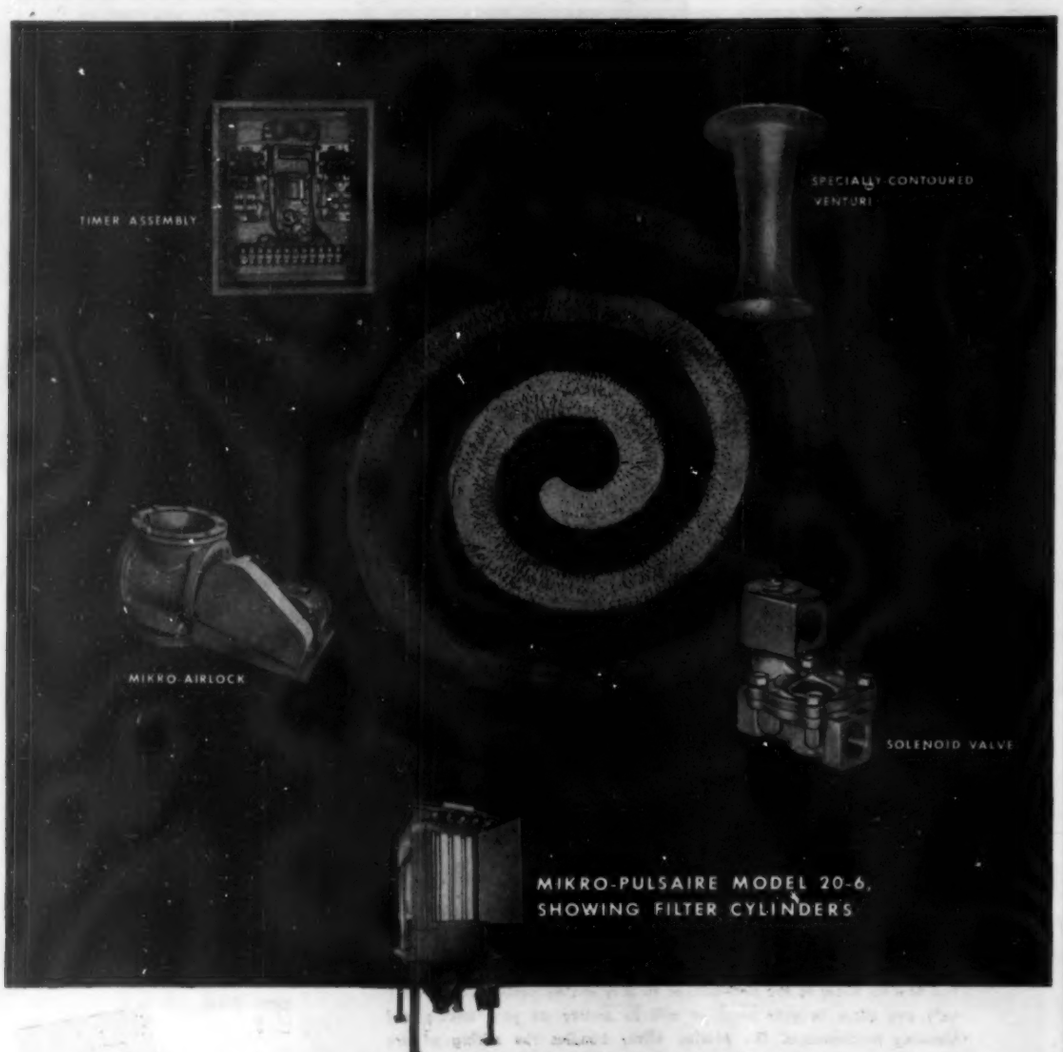

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TABLE 5. The Effect of Substituting Various Levels of Soft Phosphate, on an Equi-Phosphorus Basis, for Dicalcium Phosphate on Free Inorganic and Total Acid Soluble Phosphorus in Chicks Fed Experimental Diets for an Eight-Week Period (Floor Pen Test No. 1)

Lot No.	Treatment	No. of Blood Samples Taken	Av. Free Inorg. Phos. Expressed as mg./100 ml.	Av. Total Acid Soluble Phos. ex. as mg./100 ml.
38	Calcium, 1.30%; inorganic P, 0.60% (0.485% from DCP and 0.115% from diet)	10	6.88	7.77
39	Calcium, 1.30%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP)	10	5.84	7.30
40	Calcium, 1.30%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% SP)	10	6.41	7.80
41	Calcium, 1.30%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% SP)	10	6.69	8.50
42	Calcium, 1.00%; inorganic P, 0.60% (0.485% from DCP and 0.115% from diet)	10	6.54	8.15
43	Calcium, 1.00%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP)	10	6.64	7.54
44	Calcium, 1.00%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% SP)	10	6.39	7.17
45	Calcium, 1.00%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% from SP)	10	5.66	6.83
46	Calcium, 1.00%; inorganic P, 0.60% (0.485% from DCP, and 0.115% from diet), 0.40% TPA	10	6.86	8.07
47	Calcium, 1.00%; inorganic P, 0.60% (0.364% from DCP, 0.115% from diet, and 0.121% from SP), 0.40% TPA	10	6.04	6.81
48	Calcium, 1.00%; inorganic P, 0.60% (0.243% from DCP, 0.115% from diet, and 0.242% from SP), 0.40% TPA	10	6.19	6.97
49	Calcium, 1.00%; inorganic P, 0.60% (0.121% from DCP, 0.115% from diet, and 0.364% from SP), 0.40% TPA	10	6.73	7.62

*All lots received 200 gm. per ton Terramycin.
**Range or level of Terramycin in blood is expressed as mcg. per ml. of blood.
DCP—Dicalcium phosphate. SP—Soft phosphate.

PHOSPHATE

(Continued from page 29)

employed was either 1.3 or 1%. These levels were maintained by the levels of dicalcium phosphate and/or soft phosphate fed and ground limestone. It should be noted also, that the two basals are slightly different. The basal for floor-pen test No. 1 failed to promote the rate of gain desired and, also the blood level of Terramycin was so low that it had to be expressed as a range (see Table 3).

Therefore, in order to obtain better growth rate, 2½% dried whey and ½% Omafac was substituted into the basal for floor-pen test No. 2. Furthermore, in order to obtain a higher level of Terramycin in the second test, 400 gm. per ton of the antibiotic was fed instead of 200 gm. per ton as in floor-pen test No. 1.

The results of floor-pen test No. 1 are presented in Tables 3, 4 and 5 and the results of floor-pen test No. 2 in Table 6. Calcium and phosphorus blood levels were obtained only in floor-pen test No. 1.

In battery test No. 1, 270 day-old, straight-run, broiler-type chicks were purchased from local hatcheries and assorted at random among nine pens of a battery brooder. The same basal diet was employed as in floor-pen test No. 1, except that Terramycin was fed at a level of 400 gm. per ton. This test was terminated when the birds were 4 weeks of age at which time the birds were weighed, blood samples taken from 10 birds in each lot and Terramycin blood levels determined as in the floor pen tests. The experimental treatments, average weight of the birds at 4 weeks of age and Terramycin blood levels ob-

TABLE 6. Average Final (Eight Weeks) Weights, Feed Conversion and Level of Terramycin in Blood of Birds in Floor Pen Test No. 2

Lot No.	Treatment*	Av. Weight	Feed Conv.	Level of Terramycin in Blood**
38	Calcium, 1.30%; inorganic phosphorus, 0.60% (0.481% P from DCP, 0.119% P from diet)	1,408	1.99	0.118
39	Calcium, 1.30%; inorganic phosphorus, 0.60% (0.362% P from DCP, 0.119% P from diet, and 0.119% P from SP)	1,396	1.97	0.094
40	Calcium, 1.30%; inorganic phosphorus, 0.60% (0.241% P from DCP, 0.119% P from diet, and 0.240% P from SP)	1,439	2.04	0.122
41	Calcium, 1.30%; inorganic phosphorus, 0.60% (0.119% P from DCP, 0.119% P from diet, and 0.362% P from SP)	1,418	2.04	0.180
42	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.481% P from DCP, 0.119% P from diet)	1,419	1.99	0.161
43	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.362% P from DCP, 0.119% P from diet, and 0.119% P from SP)	1,440	2.00	0.140
44	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.241% P from DCP, 0.119% P from diet, and 0.240% P from SP)	1,414	2.00	0.246
45	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.119% P from DCP, 0.119% P from diet, and 0.362% P from SP)	1,466	1.95	0.310
46	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.481% P from DCP and 0.119% P from diet), 0.40% TPA	1,451	1.92	0.386
47	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.362% P from DCP, 0.119% P from diet, and 0.119% P from SP), 0.40% TPA	1,432	1.89	0.474
48	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.241% P from DCP, 0.119% P from diet, and 0.240% P from SP), 0.40% TPA	1,387	1.96	0.500
49	Calcium, 1.00%; inorganic phosphorus, 0.60% (0.119% P from DCP, 0.119% P from diet, and 0.362% P from SP), 0.40% TPA	1,419	1.90	0.569

*All lots received 400 gm. per ton Terramycin.
**Level of Terramycin in blood expressed as mcg. per ml.
DCP—Dicalcium phosphate. SP—Soft phosphate.

tained in this test are presented in Table 7.

Battery test No. 2 was initiated by taking the birds remaining from battery test No. 1, assorting them at random among 10 pens of a finishing battery brooder, placing them on an antibiotic-free basal diet (same as for floor-pen test No. 2 without Terramycin) for a period of seven days, weighing them again, then placing them on the experimental diets for two weeks.

After these birds had been fed the experimental diets for two weeks, they were again weighed and blood samples taken from 10 birds in each lot, and Terramycin blood level was determined as in the preceding tests. The average gain during the two-week test period and the effect of the various treatments on the blood level of Terramycin are shown in Table 8.

RESULTS AND DISCUSSION—Floor-pen test No. 1 data, presented in Table 3, indicates that neither rate of gain nor feed conversion was significantly affected by the substitution on an equi-phosphorus basis of various levels of soft phosphate for dicalcium phosphate. The data further suggests that the feeding of either 1.3% calcium, 1% calcium, or 1% calcium plus .4% terephthalic acid failed to significantly alter either rate of gain or feed conversion.

However, increasing the level of soft phosphate in the diet was responsible for a higher level of Terramycin in the blood and also the number of birds showing detectable amounts of the antibiotics in the blood. These data further indicate that the feeding of calcium at the 1% level in the presence of .4% TPA was responsible for a marked elevation of Terramycin blood levels when compared with the feeding of 1% calcium alone. These findings are in agreement with the findings of Peterson.

Table 4 shows the serum calcium data obtained from 10 blood samples taken from each lot in floor-pen test No. 1. These results are not too consistent and are rather difficult to interpret. However, to the writer, these data do not indicate that the calcium in soft phosphate is not well utilized by the chicken. This is particularly true when one realizes that as the level of phosphorus contributed by soft phosphate increases, the level of calcium contributed by dicalcium phosphate and/or ground limestone decreases. Yet, there is no consistent significant difference between the serum calcium level on the various treatments.

The results of floor-pen test No. 1 in regard to the blood-phosphorus analysis are presented in Table 5. The data indicates that neither inorganic phosphorus nor acid soluble phosphorus in the blood was affected by the various treatments employed.

Floor-pen test No. 2—The average final weights, feed conversion, and level of Terramycin in the blood from this test are presented in Table 6. These data indicate that neither growth rate nor feed conversion was significantly affected by the various treatments employed. However, Terramycin blood levels were increased as the level of soft phosphate in the diet increased, as calcium was decreased from 1.3% to 1% and as .4% TPA was fed in the presence of calcium at the 1% level. These data are in complete agreement with and show the same trend as the data obtained from floor-pen test No. 1 (Table 3). These results also show an additive-potentiation effect between soft phosphate and TPA.

Battery test No. 1—The average weight (4 weeks) and Terramycin blood levels of the birds on this test are presented in Table 7. The results of this test indicate that rate of gain of the birds to 4 weeks of age was not significantly affected either by the substitution of various levels of soft phosphate on an equi-phosphorus basis for dicalcium phosphate, by the feeding of TPA at the .4% level or by addition to a diet containing .485% phosphorus from dicalcium phosphate of the amount of iron and/or aluminum that would be present in 3.59 lb. of soft phosphate (the highest level of soft phosphate fed in the test).

However, Terramycin blood levels

TABLE 7. The Effect of Feeding Various Levels of Soft Phosphate, Alone and in Combination With TPA, on Growth Rate and Terramycin Potentiation of Chickens to Four Weeks of Age (Battery Test No. 1)

Lot No.	Treatment*	Average Weight	Terramycin Blood Levels**
1	0.485% P from DCP + 0.115% P from diet	500	0.128
2	0.323% P from DCP + 0.162% P from SP + 0.115% P from diet	491	0.183
3	0.162% P from DCP + 0.323% P from SP + 0.115% P from diet	493	0.254
4	0.485% P from DCP + 0.115% from diet + 0.40% TPA	525	0.263
5	0.323% P from DCP + 0.162% P from SP + 0.115% P from diet + 0.40% TPA	543	0.488
6	0.162% P from DCP + 0.323% P from SP + 0.115% P from diet + 0.40% TPA	464	0.509
7	0.485% P from DCP + 0.115% P from diet + Fe***	481	<0.075
8	0.485% P from DCP + 0.115% P from diet + Al***	542	0.124
9	0.485% P from DCP + 0.115% P from diet + Fe + Al	508	<0.075

*All lots received 1.00% calcium + 400 gm. per ton Terramycin.
**Terramycin blood levels expressed as mcg. per ml.
***Fe and Al were fed at levels equal to the amount of these two minerals that would be supplied by the amount of soft phosphate required to furnish 0.323% phosphorus.

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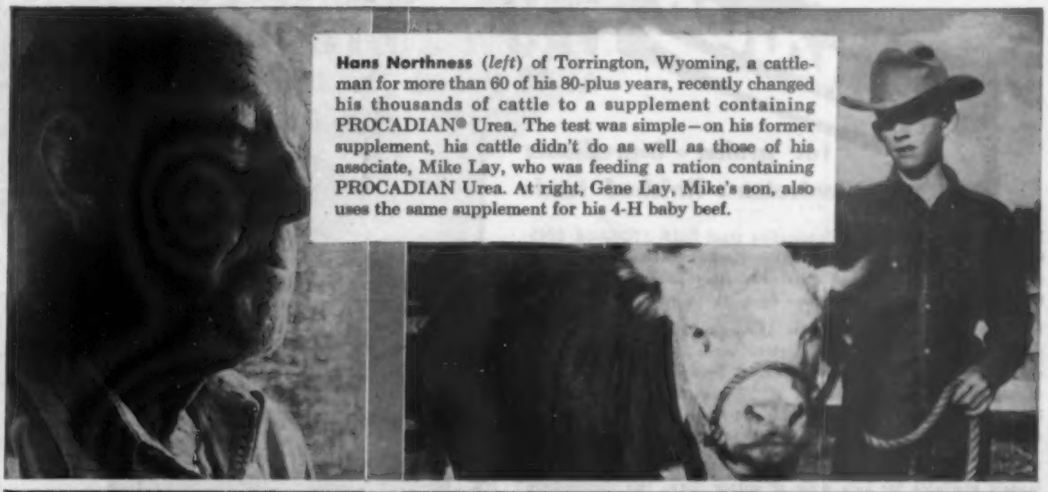

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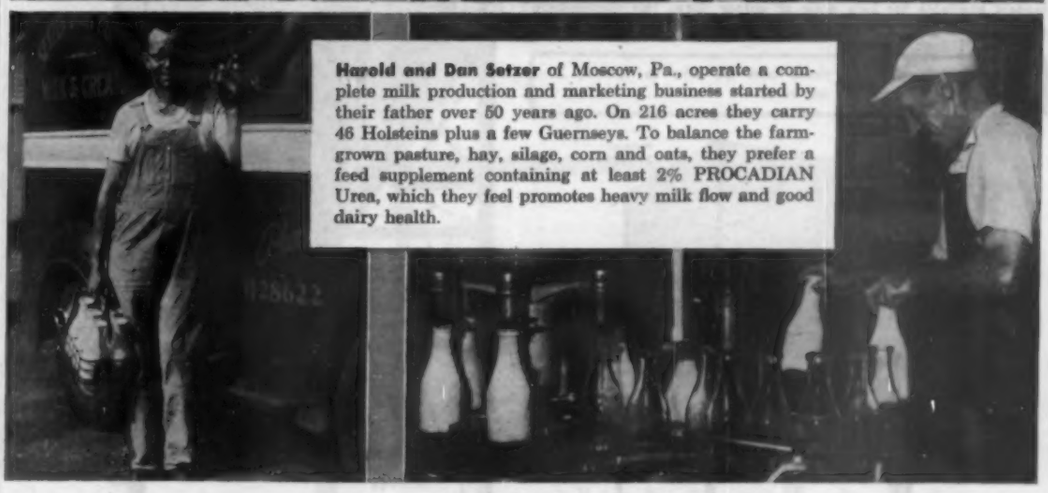

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TABLE 8. The Effect of Feeding Two Levels of Soft Phosphate, Two Levels of Calcium and Trace Minerals,* Alone and in Combination With TPA, on Rate of Gain and Terramycin Blood Level of Chicks Fed Experimental Diets for a Two-Week Period (Battery Test No. 2).

Lot No.	Treatment**	Av. Gain in Two Weeks	Terramycin Blood Levels***
1	Calcium, 1.00% + 0.481% P from DCP + 0.119% P from diet	269	0.136
2	Calcium, 1.00% + 0.481% P from SP + 0.119% P from diet	260	0.254
3	Calcium, 1.00% + 0.481% P from DCP + 0.119% P from diet + 0.40% TPA	301	0.283
4	Calcium, 1.00% + 0.481% P from SP + 0.119% P from diet + 0.40% TPA	284	0.536
5	0.60% calcium from DCP	282	0.206
6	0.60% calcium from SP	281	0.255
7	0.60% calcium from DCP + 0.40% TPA	278	0.358
8	0.60% calcium from SP + 0.40% TPA	278	0.603
9	0.485% P from DCP + trace minerals in SP	258	0.153
10	0.485% P from DCP + trace minerals in SP + 0.40% TPA...	251	0.160

*The trace minerals added in Lots 9 and 10 were the levels of these minerals that would be contributed to the diet when 0.481% P was supplied by soft phosphate.
**Each lot received 400 gm. per ton Terramycin
***Terramycin in blood expressed as mcg. per ml.

were increased approximately 198% when .323% phosphorus from soft phosphate was substituted into the diet for the same level of phosphorus from dicalcium phosphate, when fed either in the presence or absence of .4% TPA. It is also interesting to note that the addition of .4% TPA to the diet containing .485% phosphorus from dicalcium phosphate resulted in approximately a two-fold potentiation of Terramycin, and that the feeding of the high level of soft phosphate plus .4% TPA resulted in approximately a four-fold potentiation. Indicating, of course, that the potentiating effects of soft phosphate and TPA are additive.

This is in agreement with the results obtained in floor-pen test No. 2. The results of this test further indicate that iron, either alone or in combination with aluminum, exerts a definite lowering effect on the Terramycin blood level, whereas aluminum alone did not significantly alter this value.

Battery test No. 2—The results of this test are presented in Table 8. It should be kept in mind that the various experimental diets were fed for a period of two weeks only. The data indicates that the gain of the birds during the 2-week period was not significantly altered by the various treatments employed. However, the substitution of soft phosphate for dicalcium phosphate resulted in approximately a two-fold potentiation of Terramycin. The same was true of the addition of .4% TPA. Also, here again, the combination of soft phosphate and TPA resulted in approximately a four-fold potentiation of the antibiotic indicating that the potentiating effect of these two ingredients was additive.

When the calcium in the diet was reduced to .6%, and this calcium was furnished by either dicalcium phosphate or soft phosphate, the latter elicited a slightly higher (approximately 25%) level of blood Terramycin; however, when calcium was supplied by either of these at the .6% level in the presence of .4% TPA, soft phosphate was responsible for a marked increase (168%) in Terramycin potentiation when compared with the group in which .6% calcium was supplied by dicalcium phosphate and fed in the presence of .4% TPA.

Since the serum calcium data failed to show any significant difference in calcium utilization between dicalcium phosphate and soft phosphate in floor-pen test No. 1, it was felt that possibly some component or combination of components in the trace mineral portion of soft phosphate might be responsible for the potentiating effect of this phosphorus supplement. Therefore, a trace mineral premix was made according to the analysis of soft phosphate as published by the U.S. Bureau of Mines. This premix was then added to a diet (Lot 9), which contained .485% phosphorus from dicalcium phosphate, at a level which would supply the same amount of the minerals as would be supplied to the diet by the level of soft phosphate necessary to supply .485% P (Lot 2). This trace mineral premix was also fed at the same level in the presence of .4% TPA (Lot 10). The results indicate that the potentiating effect of soft phosphate in not due to its trace mineral portion.

SUMMARY—The results of two floor-pen broiler tests and two battery broiler tests involving approximately 2,700 birds are reported in this paper.

Inorganic phosphorus was fed in all instances at the .6% level.

Calcium was fed at 1.3%, 1%, and .6%. Terephthalic acid was fed at the .4% level.

The basal diets employed contributed approximately .115% inorganic phosphorus to the experimental diets and the remaining .485% phosphorus was supplied by either dicalcium phosphate, soft phosphate or a combination of the two. Soft phosphate was substituted on an equi-phosphorus basis for 0, 25, 50, 66, 75, and 100% of the phosphorus supplied by dicalcium phosphate. When the tests were terminated, 10 blood samples were taken from each lot and analyzed for Terramycin. In floor-pen test No. 1, 10 additional blood samples were taken and analyzed for serum calcium, inorganic phosphorus and acid soluble phosphorus.

The results of these tests indicate that:

(1) The substitution of soft phosphate into the diet of growing chicks to replace dicalcium phosphate on an equi-phosphorus basis had no consist-

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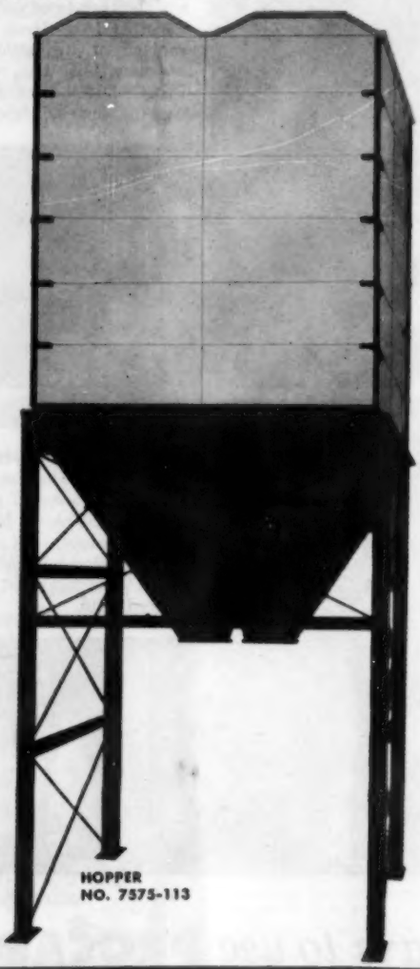

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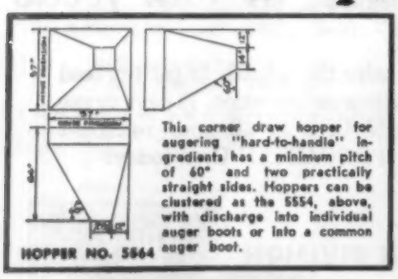

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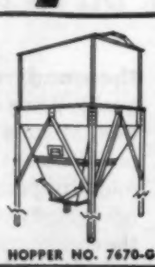

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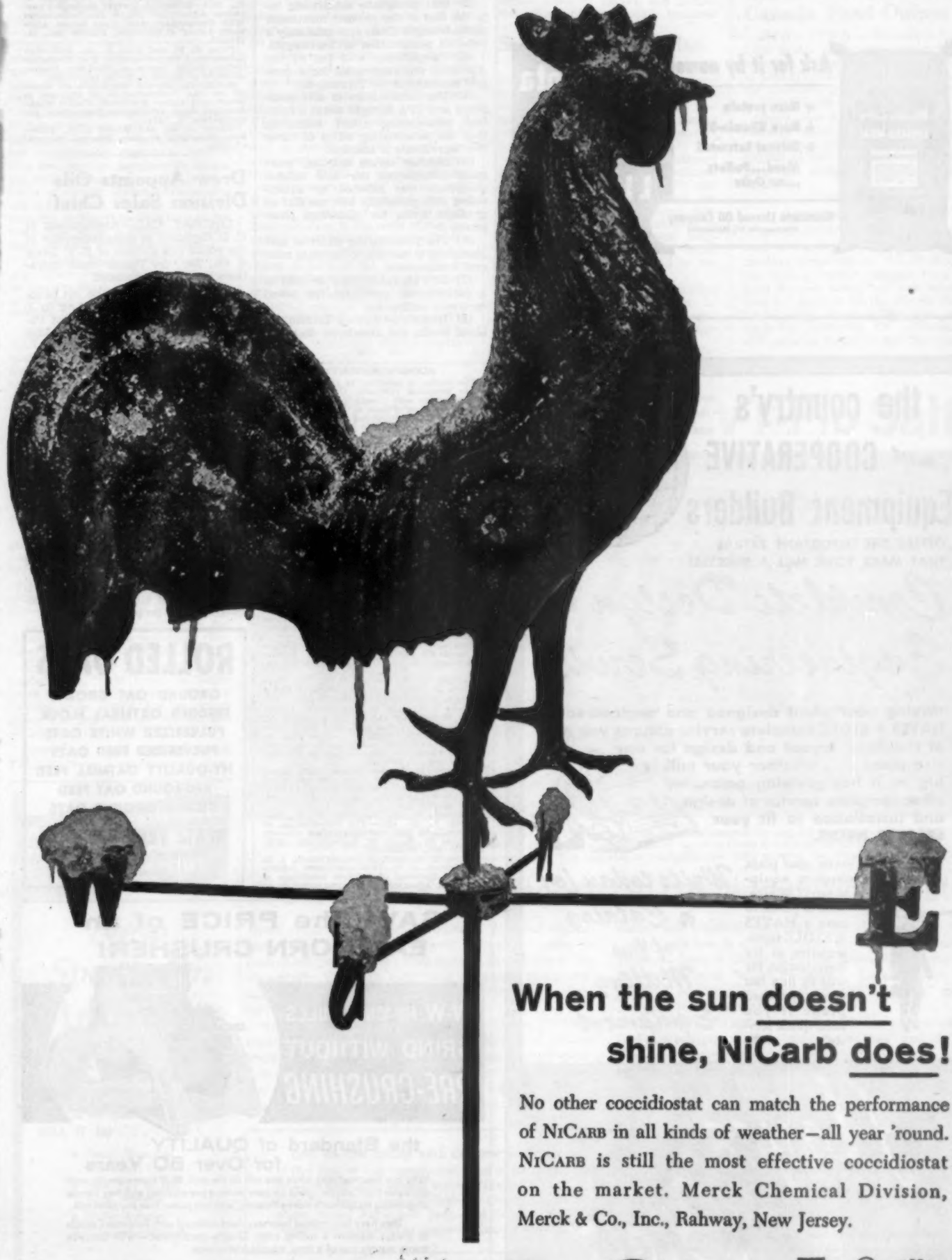

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ent significant effect on either rate of gain or feed conversion.

(2) Soft phosphate substituted into the diet in the manner mentioned above brought about approximately a two-fold potentiation of Terramycin.

(3) Terephthalic acid fed at the .4% level was responsible for a two-fold potentiation of Terramycin.

(4) The combination of soft phosphate and TPA brought about a four-fold potentiating effect indicating that the potentiating effect of these two ingredients is additive.

(5) Neither serum calcium, inorganic phosphorus nor acid soluble phosphate was affected by substituting soft phosphate into the diet at gradient levels for dicalcium phosphate.

(6) The potentiating effect of soft phosphate is not due to its trace mineral components.

(7) Soft phosphate may be used as a potentiating agent for the broad spectrum antibiotics.

(8) Iron depresses Terramycin blood levels, but aluminum does not.

ACKNOWLEDGEMENT

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Drew Appoints Oils Division Sales Chief

LINDSAY, CAL.—Appointment of C. L. Gemmell as sales supervisor of the edible oils division of E. F. Drew & Co., Inc., for Pacific coast operations has been announced.

Mr. Gemmell will make his headquarters at Lindsay, according to J. M. Hagerty, general manager of Pacific coast operations for the Malaga oil products division.

Mr. Gemmell formerly was associated with Bradley and Baker of New York.

New Pelleting Plant

WALLER, TEXAS — Announcement of the formation of a feed pelletizing and dehydration plant here has come from Homer Y. Jones.

The name under which the company is being formed and chartered is "Tin Top Ranch, Inc." Mr. Jones expects the firm to be in production by June 1.

Mr. Jones has purchased the Heil Dehydrating plant from White's, Inc., Houston, and also the California pellet mill, which already has been delivered to the property.

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They have heat-treated hammers, hard-surfaced with Tungston Carbide to always maintain a cutting edge. Quality construction — with cast iron frame assures you of a long, trouble-free service.

You get more for your money — all the way through. Here are representative prices:*

MODEL	HORSEPOWER	FEED OPENING	PRICE*
F-25M Gooseneck	40	18"	$ 697.04
F-27M Gooseneck	75	24"	$1665.86
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Other Models from $154.00 to $408.16. All prices f. o. b. factory.
A convenient time-payment plan is available. Write for complete information.

W-W GRINDER CORP. Dept. 311 2957 NORTH MARKET WICHITA 4, KANSAS

GRAIN BANK

(Continued from page 60)

ment until he deposits more grain, the farmer is charged for the grain used in his ration at the going bushel rate for the day.

Grain Bank Record Keeping—Once a dealer has set up a grain bank policy, he needs to carefully revise his bookkeeping system to include this new service. Accuracy in weighing and in recording weights is especially important. Miller operators and office help must be careful never to overlook or forget to designate on the sales slip when a customer's grain bank account should be debited.

The grain bank operator must always know exactly how much grain he has on hand that belongs to his grain bank customers and how much belongs to him.

MERCHANDISING THE GRAIN BANK—Many dealers feel a grain bank service sells itself. However, most successful ones have been promoted by aggressive managers.

Some dealers have found it very advantageous to conduct a market analysis of their area before launching their grain bank program. They see as many people as possible to: (1) Educate their prospects to the benefits of a grain bank, (2) sell the idea of signing up early and (3) enable dealers to better predict and prepare for future business.

Other dealers have kicked off their grain bank plan with a dinner—an appreciation dinner where a neighboring dealer who has successfully operated a grain bank was invited to speak. Then proof records were shown on key feeders' operations.

Many dealers print and freely distribute small folders explaining their program and how it works.

An Ohio dealer gave each of his customers a "pass book" in which grain bank rules and recommended rations were stated and in which space was provided for deposit and withdrawal entries.

COST OF THE GRAIN BANK PROGRAM — Farmers may have three basic questions about using a grain bank: Their confidence in the operator, their understanding of his grain bank policy and what it can do for his cost of production.

A farmer has the right to ask, "Can I afford to participate in this grain bank plan?" Many people are beginning to say the farmer cannot afford not to participate.

Last year the Indiana Grain & Feed Dealers Assn. figured a farmer's cost of handling 10,000 bu. of corn stored and ground on his farm against that same 10,000 bu. stored and processed in a grain bank. The comparison of these costs actually came out 4.1¢ bu. in favor of the grain bank. However, even if the costs of the two systems had come out exactly the same, I'm sure the balance would be tipped in favor of the grain bank because of the many added advantages that are hard to figure into any cost picture.

A feeder's cost of producing 100 lb. of pork, a dozen eggs or 100 lb. of milk will ultimately decide whether grain bank merchandising has a legitimate place in today's and tomorrow's feed and farm supply business.

Seek Marketing Plan

TORONTO—Ontario egg producers discussed development of a marketing system for their product which will bring reasonable prices and stability to their industry, at the annual meeting of the Poultry Producers Assn. held here.

President Tom Robson cautioned delegates, in a review of association activities, to move deliberately and carefully on a marketing plan. He cited price cutting due to fierce competition in present egg marketing as "deplorable," and expressed confidence that a marketing plan "could be, and would be, developed in the coming year."

A special egg marketing committee was set up by the association to study egg marketing conditions and to attempt to develop a sound marketing plan.

Increases Reported in Canada Feed Output

WINNIPEG — Shipments from 1,409 plants comprising the feed industry in Canada in 1958 were valued at $284,912,000, larger by 14.5% than the preceding year's 1,400-plant total of $249,033,000.

There were 8,147 employees in the industry (8,052 in 1957), with salaries and wages totaling $24,057,000 ($21,429,000 in 1957). Materials and supplies cost $219,485,000 ($190,251,000 in 1957).

OREGON EVENT SET

McMINNVILLE, ORE. — The annual spring golf tourney and dinner meeting sponsored by the Washington County District, Oregon Feed & Seed Dealers Assn., has been scheduled for April 26 at the Forest Hills Golf Course, Cornelius, Ore. Tom Lee, Ames-Harris-Neville Co., Portland, will serve as chairman for the event.

Another Profit-Able "FARMACEUTICAL" from SPECIFIDE

New Spray-On Antiseptic

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STOCK IT and SELL IT for . . .

- Sheep Shearing Nicks and Gashes
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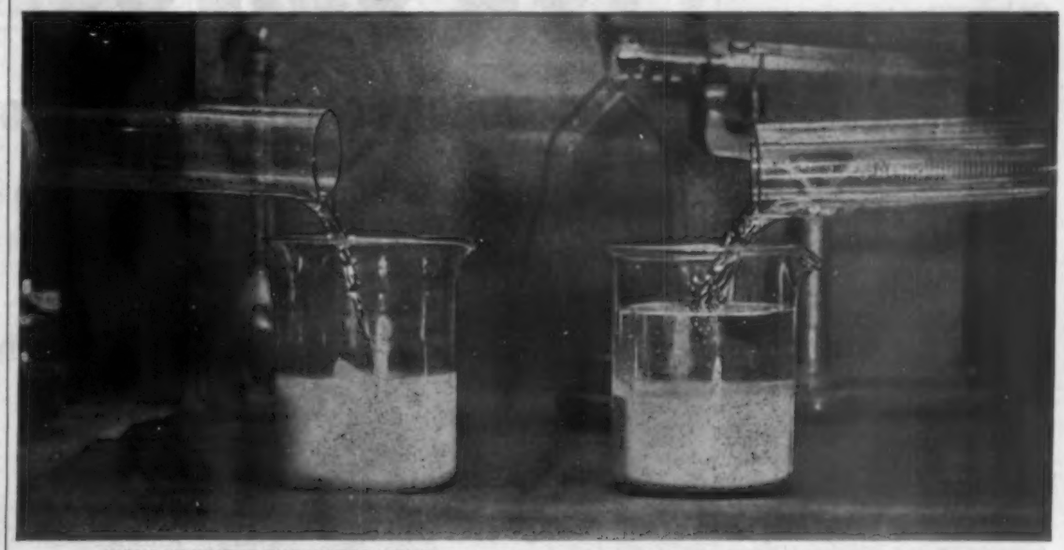
New from Carey Research: Ev'r-Flo Salt



WONDER WHERE THE WATER WENT? On the left, water has dissolved some of the salt and soaked down between the salt crystals of ordinary salt. On the right, the water stays on top—new Carey Ev'r-Flo Salt is not dissolved nor does the water penetrate between crystals. The next step in this test is even more startling. See details below.

A Carey first...engineered to cut feed mixing costs

Even under the extreme conditions pictured above, new Carey Ev'r-Flo Salt *flows!* When the water is poured off, you will see! This unusual flowability is the reason why Carey Ev'r-Flo cuts your costs in unloading, storing and mixing. It virtually eliminates caking, lumping and bridging.

Your savings can begin even before Carey Ev'r-Flo enters your plant—you may get a reduction of 10% or more in unloading time. Next, you can increase your salt storage capacity without spending a penny. You can put about 125 tons of Carey Ev'r-Flo in a space usually filled by only 100 tons of ordinary salt. Flowability and higher density makes the difference!

Save salt too. A special process developed by Carey Research makes Carey Ev'r-Flo unusually slippery, free-flowing and "water resistant." Less additive is required, so Carey Ev'r-Flo is actually a "saltier" salt . . . each ton goes further.

Carey Ev'r-Flo is the ideal salt for today's automatic feed mill equipment. You "push the button" and Ev'r-Flo *goes*. There's less dust, less caking, lumps, and bridging in equipment . . . and Carey Ev'r-Flo disperses quickly and uniformly through the other feed ingredients.

ONE 40-TON ORDER WILL CONVINCE YOU!
If this first 40-ton (hopper car) load doesn't flow free and easy, your money will be refunded. Carey Ev'r-Flo Salt is now available in the 22 states where Carey Farm and Industrial Salt is sold. Order today and start saving with Carey Ev'r-Flo.

Have this Carey Ev'r-Flo Salt test, (pictured left) made right in your own office by a Carey representative without cost or obligation. Just phone or write the sales office nearest you (Atlanta, Denver, Ft. Worth, Omaha, St. Louis, Kansas City or The Carey Salt Company, Hutchinson, Kansas.

◀ Paul V. Ines, Director of Carey Salt Research

CAREY

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Sees No Soybean Price Rise Soon

URBANA, ILL. — Soybean prices cannot go up and remain higher between now and Oct. 1, a University of Illinois agricultural economist declared. Lower prices seem probable.

Dr. T. A. Hieronymus said the most optimistic prospect is that the Commodity Credit Corp. can hold soybeans at about their current price next summer.

Here is how Dr. Hieronymus appraises current soybean market developments:

"(1) CCC is willing to sell its entire stock at 20¢ over the loan price, which is about equal to current prices. This sales policy puts an effective lid on the price.

"(2) Soybean supplies are plentiful. There will be a substantial carryover of about 50 million bu.

"(3) At present, CCC does not have enough soybeans to make its resale price effective in the market. It has 21 million bu. under control, but it will need 50 million to control the market price.

"(4) CCC can get the remainder of the supply needed to control price only if the price goes down to about the loan price.

"(5) Prices will probably go down so that soybeans under loan will be taken over by CCC.

"(6) Farmers can profitably redeem soybeans under loan at current prices. If more than 21 million bu. are redeemed and sold on the market, CCC will not get enough beans to affect market prices next summer. Such redemption could take place if soybean prices hold near present levels for the next six weeks.

"(7) If CCC has no control over price, the market price for old beans could drop to equal that of new crop beans."

Feed Executive Sees Bright Farm Future

GIDDINGS, TEX. — A prediction that agriculture would reach, within 20 years, "heights once considered in the fairy-tale realm" was made here by a feed firm executive.

Ralph V. Grier, general sales manager of Nutrena Mills, Minneapolis, made the forecast in a speech before a joint dinner meeting of Giddings' Lions and Rotary clubs. The address was the first event in a two-day open house program at Nutrena's newly-enlarged plant here.

Among significant developments predicted by Mr. Grier were:

"(1) Management and production systems that will make possible enormously increased farm output with only a fraction of the manpower now required.

"(2) New consumer and industrial goods—ranging from battery plastic to house paint—that will require increasingly more farm-produced raw ingredients.

"(3) Animal feeds that will come close to the magic '1 lb. of feed for 1 lb. of gain' conversion rate.

"(4) Farm animal production that will be devoted almost entirely to meat-type hogs, chickens, turkeys and cattle for which packers and consumers will pay premium prices.

"(5) New and improved seeds, planting techniques, farm machinery, fertilizers, insecticides and other chemical aids, and improved processing and preserving methods which combined will make farming more efficient and profitable."

Mr. Grier cautioned, however, that farmers must adopt those improvements which make agriculture more productive and businesslike "or be pushed aside in the surge of increased competition."

Dairy Science Group To Meet June 19-22

LOGAN, UTAH—The 55th Annual Dairy Science Association conference to be held from June 19 to 22 at Logan features the largest number of research papers ever presented at this annual meeting.

Over 200 papers will be presented at the meeting. One report that will be of particular interest to the dairy industry deals with new information on bloat control.

Another important report will deal with milk solids-not-fat. Present trends indicate that more emphasis is being placed on the solids in milk other than fat, as well as the fat itself. Researchers will discuss how this trend might influence the future value and methods of payment for milk.

To Direct Research

TOLEDO, OHIO — John W. Luce, veteran industrial engineer, has been appointed assistant to Tom W. Brown, Jr., division manager of the multiwall bag division of Owens-Illinois Glass Co.

Mr. Luce will direct research and new product development. This will include work on improvements in customers' material handling methods and development of new types of flexible packaging. He joined the firm in 1936 and has worked for more than 20 years in the company's industrial engineering program.

You can sell best

...and customer satisfaction "comes in Burlap!"

Have you ever added up the inducements you can offer when you sell sacked feed in burlap? They can help you in selling. Here they are:

1. *A discount* on every ton of feed, when the mill provides a return-bag program.
2. *Simplified inventory* for the customer.
3. *Identification* for medicated feeds.
4. *Non-separation* of formula-ingredients.
5. *Your prices* are competitive with returnable burlap bags.
6. *Service*...you can give small customers as good delivery service as large customers (and on the same route).
7. *Bulk customers* can be served with bag-to-bulk trucks.
8. *Quantities* can be bought *as needed.*
9. Feed in burlap bags is *sanitary and free from contamination.*
10. *Accurate weights* are assured in a burlap bag.
11. *Fifty-pound* as well as 100-lb. bags can be offered.
12. Farmers have many uses for empty bags...only burlap serves them so well!

Quite a few selling-points, don't you agree? Next time you're selling a new customer, remember there's a lot to be said for burlap bags!

Just ask your own customers—they'll tell you that burlap

Is strong — takes dragging, dropping, man-handling — any tough job on the farm.

Laughs at sudden showers — wetness or dampness can't weaken it.

Saves money — extra value from re-sale and re-use.

Gives good ventilation — keeps farm supplies and products fresh.

Saves storage space — stacks to any height without slipping.

Has 1000 uses — always in demand on the farm (popular with farm wives, too!)

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ATTEND FEED MEETING—These feed men got together for some socializing during the Oregon Feed & Seed Dealers Assn. convention recently in Portland (left to right): first picture, Walt Van Horne, J. W. Feed Co., Burlington, Wash., and Paul Callison, P. G. Callison Co., Portland; second picture, Willard Eakin, Eastern Oregon Mills, Madras; A. S. Fetterman, A. S. Fetterman Co., Portland, and Dan Patterson, Grange Co-op, Central Point; third picture, Myrle Thompson, Thompson Flouring Mills, Shedd, and Frank Dorschmeimer, Kraft Foods, Inc., Portland; fourth picture, R. W. Gustafson L.C.D. Assn., feed department, Astoria, and Bob Zenger, Van Waters & Rogers, Portland.

Bulletins Tell Why Broiler Prices Fluctuate

FAYETTEVILLE, ARK. — Two bulletins on broiler prices, one analyzing short-time price changes and the other covering the live broiler pricing system, have been issued by the University of Arkansas' Agricultural Experiment Station.

Dr. Hilliard Jackson, agricultural economist at the experiment station, reports in Bulletin 617 that the average daily price change was about ¼¢ lb. during 1956 and 1957. On some days, the price changed as much as 1¢ lb.

Dr. Jackson explains that all broiler producing and consuming areas of the U.S. are tied together—and that prices in any one area can't get far out of line with prices in other areas.

He adds that more than three fourths of the Arkansas price variations can be explained by variation in Georgia prices.

In the second bulletin, No. 618, Dr. Jackson says that vertical integration of broiler production complicates the pricing system because it results in a small volume of open-market transactions.

"The structure of the Northwest Arkansas live broiler market is changing from many to few firms on both the selling and buying side. Feed dealer-processor combinations now control half of the local broiler output.

"While this gives a firm some control over supply, distribution and price regionally, its monopoly power in the national market is slight."

The two bulletins, free in single copies, may be obtained from county extension offices in Arkansas, or by writing the Bulletin Room, Agricultural Experiment Station, University of Arkansas, Fayetteville, Ark.

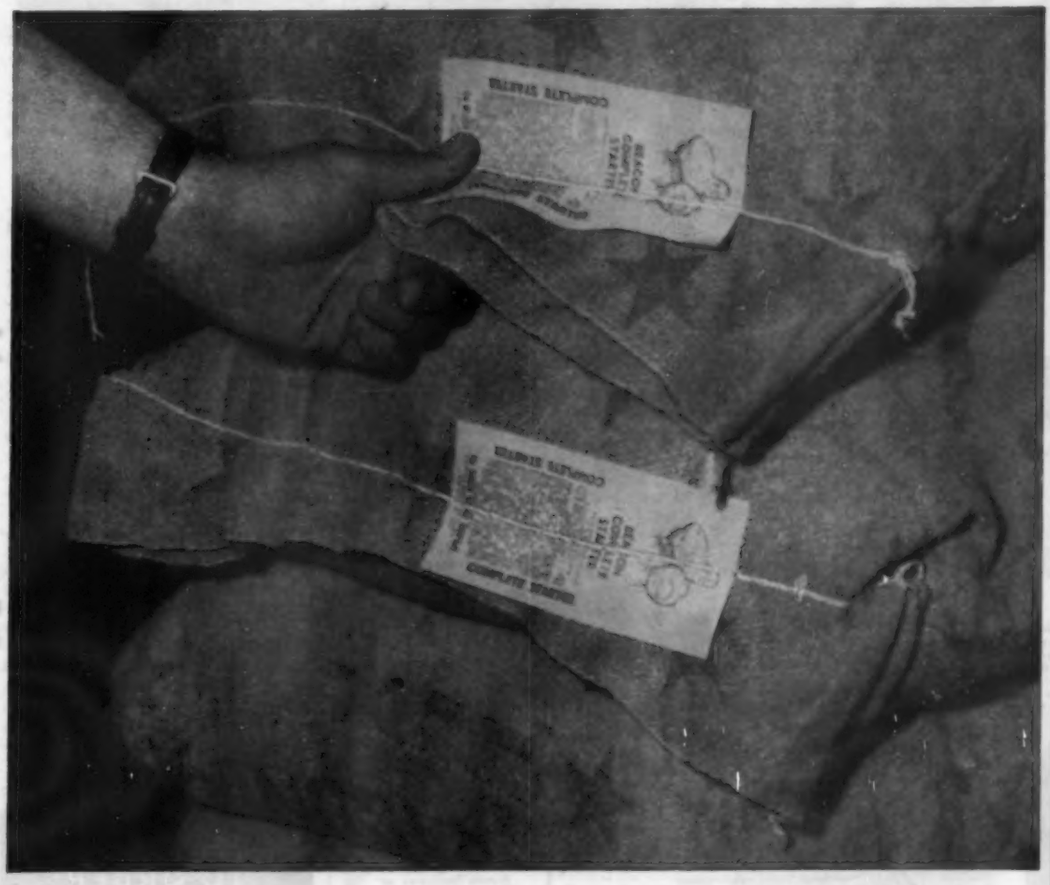
All-Mash Chick Starter

NEW BRUNSWICK, N.J. — There is a distinct advantage to starting chicks on all-mash rations as their first feed, according to research conducted and reported by poultry specialists at Rutgers University.

Chicks receiving the mash grew better than chicks on grain during the first three days of the test. From 4 to 5 lb. of a high quality starting mash for each chick up to 1½ lb. in weight, or 6 to 8 weeks of age, is recommended.

John C. Taylor, extension poultry specialist at Rutgers University, recommends the all-mash starter and emphasizes the need for plenty of feeder space and clean water.

what serves best!



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DISTILLERS CONFERENCE SCENES—In the first picture, the feeding of poultry is being discussed by some of the speakers at the recent 15th annual Distillers Feed Research Conference at Cincinnati. Visiting are (left to right): Dr. L. D. Matterson, University of Connecticut; Dr. Henry Fuller, University of Georgia; Dr. M. L. Scott, Cornell University, and Dr. J. R. Couch, Texas A&M College. In the second picture, George M. Brinker (right) congratulates his successor, C. D. McDermott, new president of the Distillers Feed Research Council. Mr. McDermott is vice president, Grain Processing Corp., Muscatine, Iowa. Mr. Brinker is manager, grain products division, National Distillers Products Co., New York. Mr. Brinker was reelected a director of the council. In the third picture, Sandra Menne, Erlanger, Ky., looks over a baseball-playing chicken which was a feature exhibit in the lobby of the Sheraton-Gibson Hotel, Cincinnati.

Roller Chain Model Horizontal Pellet Cooler produced in 10 sizes in both single stage and two stage coolers.
SETTING New Standards for the Industry in Liquid Feed Mixing, Pelleting and Cooling Equipment. Wenger Engineered for Progress. For Improving Quality, Production, Sales and Profits—Why Go Halfway—Go Wenger!
Multi-Duty Pellet Mill. 50 HP and 100 HP sizes for finest quality Hard Pellets, Wengerblended Mash Feeds and (optional) Hi-Molasses Pellets. A full line of feeds from a single piece of equipment.
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1250 Series Mixer. Capacities on liquid mixing to 60 tons per hour. Two smaller sizes available.
Multi-Blenders. For individual or simultaneous application of several liquids. Available in 3 sizes, capacities to 60, 20 and 10 tons per hour respectively.
Inclined Belt Conveyors. For hot pellets, cooled pellets and crumbles, or molasses mash feeds.
Molasses Feed Mixers in 4 sizes with hopper bin model feeders.
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Liquid Feed Mixers without liquid conditioning feeders in 3 sizes and available with hopper bin model feeders or inclined auger feeders.
Metered Flow Pumps 2 sizes in Bronze (molasses or fish) and Iron (fats).
Designed today to meet tomorrow's production problems. Wenger Pellet Mills, Coolers and Liquid Mixers insure top capacity, top quality and a size for every requirement. Designed and built to Wenger's famed standards of the finest materials and engineered to minimize labor, equipment costs and contamination hazards. Wenger equipment is designed for the mill which wants a real return from every dollar invested.
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Advances Made In Egg Marketing

EAST LANSING, MICH.—"Dehydro-frozen scrambled eggs" was one of the new advances in egg marketing reported on this month at a Michigan State University conference.

Dr. Lawrence E. Dawson, of the Michigan State department of poultry science, told the annual Egg Marketing Conference at MSU's Kellogg Center that "housewives soon will be able to buy their eggs in a wide variety of new forms and convenient packages."

Dr. Dawson explained that U. S. Army researchers have recently developed "dehydro-frozen scrambled eggs."

"I have eaten them," he attested, "and I couldn't tell them from fresh eggs. The product should be available soon, to both the Army and to the general public."

Another new item which should find favor with late evening "snackers" is a cracker-like "cocktail chip," made almost entirely of eggs, he said.

Also on the market, he added, is a frozen "French toast" bread. This bread is already coated with eggs—and ready to eat—after simply popping into the toaster.

Dr. Dawson also revealed a new-type Easter egg. This is a real egg, hard-boiled, colored and treated with a preservative which sterilizes the contents and keeps it fresh.

And for newlyweds, he said, a new prepackaged breakfast—a small frozen unit of two scrambled eggs and bacon—will be found on the market.

Nearly 100 egg marketers and producers from Michigan and neighboring states participated in the day-long conference.

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HELP WANTED

WORKING MANAGER FOR FEED MILL near Madison, Wis. Good opportunity, profit sharing basis. Contact G. Wagner, Box 138, Antioch, Ill.

MINNESOTA SOYBEAN PROCESSOR HAS opening in soybean meal sales department. Previous experience in selling soybean meal required. In reply state age, employment record, education. Salary open. Reply Ad No. 5784, Feedstuffs, Minneapolis 40, Minn.

MAJOR MANUFACTURER OF BULK feed delivery units needs aggressive, personable salesman to sell in central Midwest territory. Locate around mid-Illinois. Salary plus commission. Car and travel expenses furnished. Paid vacation, insurance program, and other fringe benefits. Feed industry, truck or comparable sales experience desirable. Reply Ad No. 5806, Feedstuffs, Minneapolis 40, Minn.

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SALES MANAGER

UNUSUAL opportunity for energetic, imaginative individual to head up sales staff of long-established, dynamic New Jersey poultry feed manufacturer.

Must be willing to accept challenges, and possess personal experience and knowledge of poultry husbandry, flock health control, nutrition and merchandising, to help expand sales potential. Also, ability to address groups.

Excellent salary and bonus. Minimum travel. Home every night. Ideal community in which to live, work, play. Near large metropolis and world-famous resort area.

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FEEDSTUFFS

Feed Tonnage Rises In North Carolina

RALEIGH, N.C.—Total feed tonnage in North Carolina rose 54,251 tons in 1959 as compared with the previous year, according to a North Carolina Department of Agriculture report.

Total tons reported for 1959 were 1,650,702, compared with 1,596,451 in 1958.

One of the bigger tonnage rises occurred in the poultry scratch grain production, which rose 10,565 tons from 43,905 in 1958 to 54,470 in 1959. However, the "other poultry mash" classification experienced the biggest rise, jumping from 441,485 tons in 1958 to 479,380 in 1959. Poultry broiler mash also was up from 562,265 tons in 1958 to 567,008 in 1959.

Hog feed tonnage was up also with hog feed concentrates down slightly from the previous year. However, an increase in the "other dairy feed" and dairy supplement classes did not make up for a drop of 2,891 tons in production of 16% dairy feed.

North Carolina Feed Tonnage Report
(Jan. 1, 1959-Dec. 31, 1959, and Comparison With 1958 Tonnage Report)

Feed—	1959 Tons	1958 Tons
Horse and mule feed	8,597	9,238
16% Dairy feed	58,373	61,664
Other dairy feed	57,056	55,919
Dairy supplement	8,975	8,093
Cattle and sheep feed	5,862	6,358
Poultry scratch grain	54,470	43,905
Poultry broiler mash	567,008	562,265
Other poultry mash	479,380	441,485
Turkey mash	26,150	29,411
Other turkey feed	10,250	9,881
Hog feed	105,025	98,142
Hog feed concentrates	56,321	59,577
Dry dog food	21,900	21,402
Oat products	1,808	4,855
Oil seed meals	131	244
Cottonseed meal	26,188	30,458
Peanut meal	200	1,366
Soybean meal	20,037	34,139
Wheat by-products	69,090	64,338
Corn products	3,542	.....
Packing house by-products	5,113	5,553
Brewers and distillers products	61	88
Mineral feeds	10,017	16,697
Other feeds	55,148	30,385
Total tonnage	1,650,702	1,596,451

Pat Driscoll Heads Oregon Poultry Council

PORTLAND, ORE.—Pat Driscoll, Albers Milling Co., has been elected president of the Oregon Poultry Council. Jim Howell is the new vice president and H. R. Rohe is secretary-treasurer.

Elected directors of the organization are Ray Holt, Corvallis; Benson Mitchell, Beaverton; Delmar Stutzman, Canby, and Elmer Williams, Silverton.

Members of the council, representing all state organizations concerned with the poultry industry, have gone on record in favor of working with the extension service to assume continuance of the U.S. Department of Agriculture market news service in Portland. Also endorsed was the Oregon State College program for development of coccidiosis vaccine, with a request that the vaccine be made available "with all possible speed."

O. K. Beals and Walter Upshaw, of the Oregon State Department of Agriculture, told the group that the department plans to hire an additional egg inspector, and to lower the fee presently charged the industry for service from 3¢ to 2.5¢ a case.

Feed Mill Endorsed

BAKER, MONT.—Endorsement of a feed mill here by the Fallon County Grain Growers Assn. and the Chamber of Commerce has been announced.

The fact that barley, which is used in the making of feed pellets, can be grown with less expense in this area is an encouraging factor, according to the announcement.

Feed Discussions Planned for Annual AACC Meeting in May

ST. PAUL, MINN.—A series of feed discussions are included in the program planned for the 45th annual meeting of the American Association of Cereal Chemists, to be held at Chicago May 1-5.

Dr. Samuel Let, nutrition expert at the University of California, will discuss feed nutrition. Dr. Let, who has been active in nutrition research for 35 years, received the Babcock-Hart award for his work in 1959.

Other topics scheduled in the area of feeds and feed supplements include the following:

"Starch Solubility in Grains as Affected by Steaming and Pelleting," by Waldon H. Hastings and G. S. Miller, Kansas State University; "Some Aspects of Quality Control of Microingredients as Used in Animal Feed Products," by R. C. Wornick and G. O. Kuhn, Chas. Pfizer & Co., Inc.; "Feed Microscopy and Its Applications," by Maxwell L. Cooley, Hoffman-Taff, Inc.

"Protein Analysis for Feed Formulation," by R. O. Nesheim, Quaker Oats Co.; "Balancing the Protein of Cereal Grains with Synthetic Amino Acids," by R. S. Gordon, K. H. Maddy, L. J. Machlin, and G. L. Romoser, Monsanto Chemical Co.; "The Physiological Role of Antioxidants in Animal Feeds," by Drs. Gordon, Machlin and Maddy, Monsanto Chemical Co.

In all, 73 diversified technical papers will be presented during the 4-day meeting.

The Midwest Section of the AACC will host the session. Between 800 and 1,000 members, wives and guests are expected to attend.

OREGON FEED MEETING—These are some of the men who got together at the recent Oregon Feed & Seed Dealers Assn. convention in Portland (left to right): first picture, Jack Horr, Butler Chemical Co., Houston, Texas; Bob Seufert, White Star Concentrates, Portland; M. E. Cumbo, Oregon Egg Producers, Portland, and Don Mishler, also of the Oregon Egg Producers; second picture, Gene Farr, Cargill, Inc., Portland; John Noble, Montana Vegetable Oil Co., Great Falls, Mont.; Dan Hayes, V. C. Britton Co., Firebaugh, Cal.; Bill Stoll, H. J. Stoll & Sons, Portland, and Floyd Roberts, Cargill, Inc., Portland.

Vertical Integration In Turkey Production Increases in Texas

COLLEGE STATION, TEXAS — Most turkey growers participate in some form of vertical integration. Estimates show about half of all turkeys produced in the U. S. come from integrated programs, and about three-fourths of the major feed companies have integrated programs available to turkey producers, according to a report from Texas A&M College.

A large percentage of Texas feed manufacturers have integrated programs in cooperation, reports John McHaney, extension economist.

Six leading feed manufacturers in Texas have indicated they financed about 84% of their turkey producer customers to some extent in 1958, and the practice is increasing.

About 70% of a number of Texas turkey producers who were interviewed in 1958 stated they operate through vertically integrated programs, Mr. McHaney said. These programs include financing and supervision in cooperation with feed manufacturers, feed dealers and hatcheries.

Reasons for the growth of integration in the turkey business are outlined in a publication of the Texas Agricultural Extension Service and the Texas Agricultural Experiment Station. The publication was prepared by McHaney and other economists.

A major reason for the growth, Mr. McHaney explained, is that improved practices in growing turkeys have lowered the unit cost of production, thereby encouraging growers to establish large, specialized commercial flocks. Also, vertically integrated programs provide a constant and ample supply of turkeys throughout the year to processors and retail outlets.

A major advantage of being vertically integrated is that the producer has less capital involved in turkey production. In some instances, Mr. McHaney said, integrated programs increase the producer's income. Also, needed additional capital can be provided for the producer to operate efficiently.

However, there are several disadvantages to such a program, the economist points out. A major one, in some cases, is that the producers must give up some of the management decisions to others in return for reduced risks and capital supplied by the integrator.

The Texas experiment station publication on turkey integration is available from the Agricultural Information Office, College Station, Texas.

Commercial Solvents Names District Head

NEW YORK—Carroll R. Sutton has been named manager, Chicago district office of Commercial Solvents Corp., it was announced by J. V. O'Leary, general sales manager.

C. R. Sutton

For the past 26 years, Mr. Sutton has been associated with CSC, and since 1937 has been manager of the Detroit District Office. Under a realignment of sales divisions, Mr. Sutton will continue to be in charge of the Detroit office, although he will now make his headquarters in Chicago.

Commercial Solvents Corp. is a basic producer of chemicals for industry and agriculture, animal nutrition products, potable spirits and biochemicals which include pharmaceuticals such as antibiotics.

Directors Named for Co-ops' Federation

WASHINGTON—Directors of the newly-formed American Federation of Poultry Producers Assns. have been announced.

Directors named for the new organization were: Ray Flumerfelt, Cooperative G.L.F., Ithaca, N.Y.; W. D. Moore, Southern States Cooperative, Richmond, Va.; H. C. Kennett, Central Carolina Farmers Exchange, Durham, N.C.; Mark Hess, Pennsylvania Farm Bureau Cooperative, Harrisburg, Pa.; Fred Mulligan, Missouri Farmers Assn., Columbia, Mo.; William G. Cole, Illinois Farm Supply Co., Chicago; Fred McLaughlin, Farm Bureau Cooperative Assn., Columbus, Ohio, and M. J. Wood, Farmers Cooperative Exchange, Raleigh, N.C.

The organization was formed at a meeting of farmer cooperatives serving poultry producers, including a number of cooperatives affiliated with the National Council of Farmer Cooperatives. (Feedstuffs, March 26.)

Discuss Hog Industry

WINNIPEG—A proposal for the organization of hog producers' commodity groups in the prairie provinces received support there when representatives of farm organizations of Ontario, Manitoba, Saskatchewan and Alberta met to discuss problems relating to the hog industry. The objectives of the hog producers' commodity groups would be to study and further the work of the organization by educational means, and further, to study the possibility of developing a marketing board.

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Functions of FDA, USDA Explained

MILWAUKEE, WIS.—The federal Food and Drug Administration's actions in withdrawing cranberries and hormone-treated caponettes from markets were not whimsical acts, but matters of law and duty, John L. Harvey, deputy administrator of the FDA, said here.

Mr. Harvey told a meeting of the North Central Section, Entomological Society of America, that the FDA considers a zero tolerance necessary if a food residue or additive of any strength produces cancer in test animals.

He also explained the functions of the FDA and the U.S. Department of Agriculture in approving or banning agricultural chemicals.

"Functions of the USDA are to clear the use of chemicals for the safety of farm operators and processors and to issue certificates of usefulness, with recommendations as to use," Mr. Harvey said.

"Then it is the function of the FDA to determine tolerances, if any. This is a matter of teamwork between the two agencies. It is not true that the USDA poisons the consumers or that the FDA opposes all pesticides."

Public Relations Head

SUMMIT, N.J. — Frank T. Koch, East Orange, has been appointed director of public relations at CIBA Pharmaceutical Products, Inc., according to an announcement by T. F. Davies Haines, president.

Mr. Koch joined the firm in 1955 as a public relations assistant. Since 1956 he has served as assistant director of the public relations division. He has been previously employed in the public relations department of the Port of New York Authority and in the advertising and publicity department of Cunard Steamship Co., Ltd.

Illinois Farm Supply Reports Record Year

CHICAGO—The Illinois Farm Supply Company, Chicago, reports that sales, savings, and refunds for the fiscal year ending Aug. 31, 1959, were the highest in the company's history.

Sales to local member companies increased nearly 9 percent—to almost $77 million. And savings increased from $5.6 million to more than $5.8 million.

Patronage refunds to member companies amounted to over $5.1 million, compared to $2.3 million in 1958. This large increase, officials said, was made possible through the company's new financial plan which includes the issuing of patronage refunds as preferred stock.

Over $2 million of the 1959 refund was distributed as preferred stock, while the remainder was paid in cash.

Here is how the principal products handled by the company fared last year: Steel products climbed 24 percent, fertilizer sales climbed nearly 20 percent, petroleum and related products climbed 5 percent and feed sales showed a "moderate increase."

INSECT CALENDAR — Douglas Chemical Co. has put out a four-color, two-year calendar reproducing the 12 most troublesome bugs with which grain storage warehousemen have to contend. The calendar, which was originally put out in 1958, was repeated for 1960-61 because of requests, according to D. K. Funk, advertising manager of the firm. The calendars are available through Douglas Chemical Co., 620 East 16th Avenue, North Kansas City 12, Mo.

Frank Seeland to Head Dr. LeGear, Inc.

ST. LOUIS—Frank Seeland was named president of Dr. LeGear, Inc., at a recent meeting of the board of directors of the St. Louis manufacturer of proprietary animal health products. The former president, Dr. Daniel H. LeGear, is retiring because of ill health.

Mr. Seeland will continue as vice president in charge of the farm chemical and insecticide division of S. B. Penick & Co., New York, which last November acquired controlling interest in Dr. LeGear, Inc.

A member of the Penick organization since 1952, Mr. Seeland was elected vice president in 1955. He has been in charge of marketing all Penick products in the field of agricultural chemicals and animal health.

CALIFORNIA

(Continued from page 10)

are Ray Pollock, director of the grain division, Commodity Stabilization Service, Washington, and Charles Force, president of the Grain & Feed Dealers National Assn., Little Brothers, Kalamazoo, Mich.

The association again has exclusive use of the Cocoanut Grove at the Ambassador Hotel for the banquet. Entertainment will feature an aquacade at the Ambassador pool and a cocktail party. Ladies' activities will include a style show and a luncheon.

An extensive sports tournament program also has been planned.

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POLICY

(Continued from page 1)

acreages of 1961 crops from a base yet to be determined at moderate levels of price support. Under such a program the disposal of Commodity Credit Corp. surplus stocks of wheat and corn would be made available to the cooperating producers of these crops on the basis of recent average yields for their farms or area to compensate them in kind for the loss of crop through the acreage cutback they would make.

What It Means

Exact administrative detail is not available now, but it can mean little less than these deliveries of CCC stocks will be in terms of warehouse receipts to producers who would presumably be permitted to sell such receipts in the open market without restriction as they would crops produced within such controls that existed. For example, marketing quotas at the time of normal farm operations.

Although this information has been double-checked at USDA for confirmation, there is some indirect official data that add final confirmation, and which, incidentally, casts in a strange light recent negotiations with the grain warehousing industry, which has been asked to accept reduction in storage rates for wheat and corn as well as other field crops.

The new policy in the course of formulation is designed to drain off the present government surpluses without any additional Treasury disbursements of new funds except to the extent that as CCC delivers grain to the cooperating farmers. CCC will take an out-of-pocket loss to the extent it has invested loan payments in acquiring those stocks.

Price Effect

What this will mean price-wise cannot be determined until USDA and Congress reach an agreement on the level of price support. Since this is an election year and USDA and the administration are fighting to regain farm belt strength, it can only be assumed that there will be no radical reduction in the level of support, certainly not for corn. And it must be understood that this new policy will only apply to the 1961 crops of wheat and corn.

After obtaining oral and not formal official confirmation of this information, there have been available official documents regarding the recent Uniform Grain Storage Agreement negotiations which show a basis for final confirmation of the correctness of this report and at the same time raise substantial doubt on the "all-cards-above-the-table" approach of the government negotiating officials with the 18-man committee of the grain trade.

New UGSA Section

In the old UGSA, Section 25(D) said: "Notwithstanding any other provision of this agreement, CCC shall not transfer warehouse receipts to any person other than agencies entitled to the benefits of this agreement without obtaining consent of the warehouseman."

That section of the UGSA has been eliminated and in its place there has been substituted a new provision:

New Section 25(D) reads: "CCC agrees not to transfer on an in-store basis warehouse receipts representing the grain, except to an agency entitled to the benefits of this agreement, unless such transfer is in effect pursuant to terms and conditions mutually agreeable to the warehouseman and CCC: Provided however, that CCC shall, notwithstanding any other provision of this agreement, have the unrestricted right to transfer such receipts to any person, firm, corporation or legal entity in connection with any emergency feed programs and any programs for delivery of grain to producers."

Those last six words in the rewritten Section 25 (D) are the clincher that USDA is about to embark on a modified Brannan-plan approach to the wheat-corn surplus problem.

It creates an illusion among farmers that they can expect a price floor under those crops at a moderately high level of price support for that part of the crops they may raise and at the same time fixes a fiction value on the warehouse receipts they will receive in payment for their acreage cutbacks, such as they may be.

At a recent negotiating committee meeting with the trade there was never any clean cut explanation of why this change was made, according to trade sources who attended those sessions.

The collected information now reported, plus the comments on the negotiations, indicates that USDA officials seem to have been seeking protection from the Symington committee without making a full disclosure of what direction their policy was leaning.

Can it be little less than correct to expect the U.S. government to inform its contractors of what to expect?

Wonder Expressed

Informed trade sources express wonder over the attitude of the farm producer with warehouse receipts in his hand. Consensus of judgment is that the farmer will be disposed to sell those receipts in the open market according to individual needs and that the illusory high price conditions which USDA attempts to establish will be defeated and that the open market prices will break to reflect the urge of farmers to convert warehouse receipt tickets into cash.

In view of this collection of informal but reliable information obtained orally from responsible officials, plus the strange switch in language in the proposed new UGSA as noted before, it is logical to conclude that USDA officials knew prior to their meetings privately with the Trade Negotiating Committee that they were about to recommend and probably invoke a new surplus disposal program which would effect heavy drains on storage facilities.

Since one of the chief points in the USDA rate reduction schedule for grain storage payments is based on the high level of occupancy of grain warehouses, it would seem that officials should disclose this intended policy shift to the trade negotiating committee.

Told of Basic Reasons

USDA has told the negotiating committee of the trade that one of its basic reasons for its storage rate reduction is that high occupancy produces excessive income returns at the old rates, but—and here is an important but—USDA failed to disclose to the trade that through later and thus far undisclosed actions the department contemplated and planned for a reduction in storage stocks starting with the 1961 crop year.

It is suggested that the grain warehousing industry needs this warning information and should notify their area representatives on the negotiating committee to ask from the USDA officials a full disclosure of what is to be expected on storage stocks of USDA next year.

This should provoke a totally new examination of the rate structure USDA is now proposing to the warehousemen, notwithstanding that official data may disclose that some warehousemen have a distinct advantage over others in the matter of occupancy of their houses and subsequent high levels of earning.

ELEVATORS BEING BUILT

LEWISTON, IDAHO—The Lewiston Grain Growers, Inc., has started building grain storage elevators in two Idaho towns to replace obsolete storage units, according to Herb Powell, manager of the firm. The Hogenson Construction Co., Minneapolis, is building the elevators at Kendrick and Juliaetta.

MUD

(Continued from page 1)

had stood up to their bellies in quagmires.

With trucks moving back into service, trunks of cars, small farm pickups, airplanes, helicopters and tractor-pulled wagons could begin to be relieved of their extra-curricular duty of transporting feed.

Even up to the middle of this week reports from around the Midwest told how feed firms, unable to move their trucks on "frost" embargoed, knee-deep-in-mud roads, met farmers at intersections of paved highways and branching rural roads and transferred their loads to feeders' cars, small trucks and wagons.

This situation, more a result of thawing piles of snow and deep frost than of flooded rivers, has been particularly troublesome in Iowa and bordering states.

A representative of a feed manufacturing firm in southwest Iowa said the spring thaw made country roads in its service area almost impassable ("The worst they've ever been"), but by working extra hours and asking for and getting cooperation from their customers most of the feed movement problems were solved. Although feed trucks couldn't travel on the roads closed to heavy loads, farmers were able to pick up their formula feed supplies from trucks stopped on highways.

Other Situations

While this particular firm was able to keep its feed moving, there were others said to have been forced to cut production substantially because they couldn't get their feed out to farmers.

It was learned that feed demand in a southeastern South Dakota area was way down because feeders had to move their stock out of feedlot quagmires to higher ground and were unable to haul adequate feed to them. Some animals received little or no feed for several days. There was "water, water everywhere," but not much of it was fit to drink.

A Fremont, Neb., feedlot operator reported that early this week a number of the "flying boxcar" type of planes and several helicopters were being pressed into service for "feed-lifts." These emergency actions, however, were necessary primarily because of the overflowing Platte River. Some cattle, it was reported, hadn't been fed in the Venice, Nebr., area for three days because of high water and mud cutting off feed supplies.

Long Range Effects?

Feed men were wondering this week how poor pastures, late crop plantings and wetter-than-ever stored corn would affect future demand for manufactured feeds. It appeared, according to reported conversations, that, once the feed transportation problem is cleared up, Midwest manufacturers will have plenty of business to take care of.

In many areas of the Midwest, floods and cool weather have delayed availability of spring pastures, but, apparently, in most instances water damage has not been a great problem.

It is believed that crop growth may be slowed up when the sun starts caking muddy fields.

Much wet corn piled in bins has been getting wetter instead of drier because of water filling up around the storage areas. Along the Platte River, for instance, farmers are saying they probably won't be able to get a lot of their grain down to even 25-30% moisture.

Alfalfa dehydrators haven't shown any great concern over how a wet spring will affect this year's production. However, they have reported that considerable alfalfa has been or is under water, but believe it is too early to tell how much of the crop has been killed.

A recent bulletin of the American Dehydrators Assn. comments: "Flooding this early, while the alfalfa is predominantly dormant, will have less adverse effect than at a later date when fields are green and growing. There is little doubt though that spring growth almost everywhere is behind time."

Some feed ingredient processors, particularly those with plants near big rivers, haven't been able to supply the trade with their usual volume of supplies.

For feed manufacturing in general, it appeared this week that floods haven't slowed down business much. There didn't seem to be any particular disruption of supply channels, except in areas where muddy rural roads halted trucks.

Up until late this week strong livestock prices were stimulated at major markets because poor roads kept heavy runs away from slaughterers. This situation was reported to have changed, however. The Chicago market reported April 7 that prices for live hogs declined as receding flood waters and improved country roads in the Corn Belt brought out the largest receipts in more than a week. Losses generally were 25@50¢ cwt. that day.

'EGG FACTORY' READY

DICKINSON, N.D.—E. J. Ridl has announced he will begin operation of an "egg factory" north and east of here. Full production is expected in about five months. The steel 40 by 200 ft. building will accommodate 8,000 layers, Mr. Ridl said.

TOP OF THE HOPPER

(Continued from page 2)

his output that customers clean out each delivery in 10 minutes after it hits the store. Quality eggs are hard to find in that country.

A CHEMIST WHO IS FAMILIAR with both government regulatory procedures and feed production techniques commented recently on the increasing importance of assuring that there is no contamination of feeds going out of feed mills. He feels strongly that feed plant operators must devote more attention to seeing that drugs used in one batch or run of feed do not get into another type of feed where they should not be used.

This chemist underscored repeated warnings that feed manufacturers, equipment firms and mill designers must take all steps possible to help avoid contamination in feed mixing and handling in the mill. If these steps are not taken, he warned, there can be serious consequences in the future. Also, he stressed, the industry should give a great deal of attention to this problem in mill modernization and building projects.

BROILER SUPPLY FLOCK production is reduced 30%, the Poultryman reports. With many of the hens in these flocks having six months of production behind them they are not expected to produce at more than minimum levels. Many will be sold off, the publication predicts, unless the prices of hatching eggs soar. The conclusion: The broiler industry will not be able to "go for broke" again for about a year and a half.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: Demand fair; supply ample; 10,000 A 34½¢ lb.; 300 D, 2,250 A 18¾¢ lb.; 300 D, 1,500 A 17½¢ lb.; 300 D, 750 A 16¢ lb.

New York: Demand fair; trend steady; supply ample; 1,500 A, 300 D 16¢ lb.; 2,250 A, 300 D 17½¢ lb.

Boston: Demand and supply steady; 400 D, 3,000 A 21½¢ lb.; 300 D, 3,000 A 21¢; 300 D, 2,250 A 19½¢; 300 D, 1,500 A 18¢; 300 D, 750 A 16¢; 75 D, 750 A 15½¢.

ALFALFA MEAL

Ft. Worth: Demand good; supply sufficient on dehydrated, limited on suncured; sacked: dehydrated, 17%, 100,000 A $62@63 rail, $60@61 truck; suncured 13% ¼-in. grind No. 1 $46@48 truck; 15% fine ground dry $50, with 2% fat added $52 rail or truck.

Boston: Demand fair; supply adequate; 17% dehydrated pellets $71; suncured, 13% $47.

Memphis: Demand fair; trend steady; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $61, bulk.

St. Louis: Demand fair; trend steady; supply light; suncured, 13% fine, sacked $46; dehydrated, 17%, 100,000 A pellets, demand slow, trend steady, supply ample, bulk $57.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $61 delivered truck loads, sacked; 136,000 A unit dehydrated $74, delivered truck loads, sacked.

Los Angeles: Demand fair; trend weaker; supply ample; dehydrated meal, 17% protein, 100,000 A $51@53; dehydrated pellet meal, 17% protein, 100,000 A $53@55; suncured meal, 15% protein $49@50; suncured crumbles, 15% protein $51@52.

Philadelphia: Demand slow; supply fair; 17% dehydrated, 100,000 A $70.50.

Omaha: Demand good; trend strong; supply tight; 17% dehydrated, 100,000 A units, bulk pellets $53; sacked meal $58, Omaha basis.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $64@66.

Minneapolis: Some strength in prices; 17% dehydrated, 100,000 units vitamin A reground pellets up $1 to $58; oiled reground pellets up to $60.

Kansas City: Demand slow; trend steady; supply adequate; 17% dehydrated alfalfa, guaranteed 100,000 A on arrival, pellets $51@52, bulk, reground pellets $53 bulk; 18% dehydrated alfalfa, guaranteed 125,000 A on arrival, reground pellets $56 bulk; 20% dehydrated alfalfa, guaranteed 150,000 A on arrival, reground pellets $63; suncured alfalfa, demand slow, supplies ample, 13% pellets $36.50@37 bulk, No. 1 ¼-in. $39@40, No. 2 ¼-in. $37.50 sacked.

Chicago: Demand fair; trend firm to easier; supply adequate; 17% protein, dehydrated, 100,000 units vitamin A $57.50@58.50; 15% protein suncured $44.50@47.

Buffalo: Demand fair; trend steady; supply fair to poor; $71, sacked, Boston.

New Orleans: Demand fair; trend steady; supply adequate; 17% protein, 100,000 vitamin A $63@64 bulk, $66@67 sacked.

ANIMAL FAT (STABILIZED)

Ft. Worth: Demand good; supply limited; prime tallow, tank cars 6¼¢ lb., drums 8¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

Boston: Demand and supply good; tallow 6¼¢ lb.; yellow grease 5¾@5¾¢ lb.

San Francisco: Demand fair; supply ample; bleachable fancy 6¼¢ lb.; yellow grease 5¼¢ lb.

Ogden: Supply good; $5 cwt., bulk.

Chicago: Demand good; trend higher; supply moderate; tank, truck or carlots bleachable fancy tallow $6.12½ cwt., yellow grease $5 cwt.

St. Paul: Feed demand good; price up ⅛¢ to 5¾¢ lb., f.o.b. producer's plant.

Louisville: Demand fair; trend steady; supply good; bleachable white 5¾¢ lb.; white tallow 6¼¢ lb.; yellow grease 5¾¢ lb.; all in tanks.

Kansas City: Demand good trend steady; supply ample; stabilized prime tallow 5¾¢ lb.

New Orleans: Demand fair; trend easy; supply adequate; 5¾@6¼¢ lb., tank cars.

BARLEY FEED

Boston: Demand fair; supply ample; $48, sacked.

Seattle: Demand fair; trend easy; supply good; $45, truck lots.

San Francisco: Demand fair; supply ample; rolled $60, ground $59.

Milwaukee: Demand fair; supply ample; trend unchanged; $36.50, sacked; ground $42.

Philadelphia: Demand slow; supply fair; $45.50.

Ogden: Supply good; rolled $44@45, whole $39@40.

Los Angeles: Demand fair; trend easier; supply adequate; standard rolled $2.83 cwt., standard ground $2.88 cwt., both sacked.

Baltimore: Demand good; trend steady; supply fair, $47.50, sacked.

Chicago: Demand good; trend firm; supply light; $37, sacked.

New Orleans: Demand slow; trend unchanged; supply adequate; $50@51, sacked.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 20 ton carlots: 80 granular $31.50, less than carlots $40; 200 mesh fine $31, less than carlots $40.

Chicago: Demand fair; trend steady; supply ample; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 60-100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25, net.

BLOOD FLOUR

Louisville: Demand slow; trend firm; supply good; $82.50@87.50, sacked.

BLOOD MEAL

Ogden: Supply good; $90 ton in 100 lb. bags, f.o.b. Ogden.

Los Angeles: Demand good; trend very firm; supply very tight; $6.75 a unit of ammonia, sacked.

San Francisco: Demand and supply fair; $6 a unit of ammonia, sacked.

Omaha: Demand good; trend strong; supply short; 80% $105, sacked, Omaha.

Louisville: Demand slow; trend firm; supply good; $82.50@87.50, sacked.

Chicago: Demand good; trend firm; supply fair; 80% protein, in 100 lb. sacks $130.

New Orleans: Demand slow; supply ample; trend steady; $82.50@87.50, sacked.

BONE MEAL (STEAMED)

Seattle: Demand good; trend firm; supply limited; $92, ex-dock, sacked.

Los Angeles: Demand better; trend unchanged; supply adequate; imported $80, 20 ton lots, sacked.

Ft. Worth: Demand good; supply extremely light; $100, sacked, f.o.b. Ft. Worth, local manufacture; imported $95, sacked, delivered Ft. Worth.

Boston: Demand and supply light; $105.

San Francisco: Demand good; supply ample; $75, sacked.

Cincinnati: Demand fair; trend steady; supply ample; $105, Cincinnati, sacked.

Chicago: Demand and supply fair; trend firm; in 100 lb. sacks $102.50.

Buffalo: Demand good; trend steady; supply limited; $105, sacked.

Louisville: Demand slow; trend steady; supply light; $90@100, sacked.

New Orleans: Demand slow; trend easy; supply ample; $90@100, sacked.

BREWERS DRIED GRAINS

Ft. Worth: Demand fair; supply sufficient; 26% protein $48, prompt.

Boston: Demand good; supply spotty; 26% $47.50@48, 22% $52, sacked.

St. Louis: Demand good; trend strong; supply adequate; $39.

Milwaukee: Demand good; trend firm; supply limited; $40 bulk, $49.50 sacked.

San Francisco: Demand fair; supply ample; $54, sacked.

Philadelphia: Demand and supply fair; trend unsettled; $49.

Los Angeles: Demand steady; trend weaker; supply limited; $49.50.

Cincinnati: Demand fair; trend higher; supply adequate; $44.60.

Chicago: Demand and supply fair; trend higher; 26% protein $36@39.

Buffalo: Demand and supply fair; trend steady to higher; $49.50, Boston.

Louisville: Demand fair; trend stronger; supply normal; $47, up $1, sacked.

New Orleans: Demand fair; trend easy; supply good; $48@49, sacked.

BREWERS DRIED YEAST

San Francisco: Demand fair; supply good; 10¢ lb., sacked.

Omaha: 10½¢ lb.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

Boston: Demand steady; supply ample; 9¼¢ lb.

Chicago: Demand fair; trend steady; supply ample; 9¾@10¢ lb., carlots, sacked; 9¾@12¼¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10¾@12¾¢ lb., ton lots, sacked.

St. Louis: Demand fair; trend firm; supply ample; 9¾@10¢ lb., carlots, sacked; 10¾¢ lb., ton lots; 11¾¢ lb., less than ton lots.

Cincinnati: Carlots 11¢ lb.; 5 ton lots 11¢ lb.; ton lots 11¾¢ lb., sacked.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11¾¢ lb., all sacked.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11¾¢ lb., all sacked.

New York: Carlots 9¼¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10¾¢ lb.; ton lots 11¢ lb., all sacked, f.o.b. New Jersey.

Los Angeles: Demand better; trend unchanged; supply limited; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots, all sacked.

Buffalo: Demand fair; trend slightly lower; supply ample; $9.25 cwt.

Louisville: Demand slow; trend steady; supply good; 10@10¾¢ lb., sacked.

BUTTERMILK (CONDENSED)

Boston: Demand and supply steady; 3.95¢ lb.

San Francisco: Demand fair; supply good; $5 cwt., drums.

Philadelphia: Demand slow; supply fair; $4.25 cwt.

Los Angeles: Demand fair; trend unchanged; supply adequate; 5½¢ lb., 100 lb. lots; 4½¢ lb., 500 lb. lots; both in barrels.

Ogden: Supply ample; $4.40 per 100 lb. drum.

Chicago: Demand and supply fair; trend steady to easier; in barrels $3.30@3.75 cwt.

Louisville: Demand dull; trend steady; supply nil; $4.25 cwt., in paper drums.

New Orleans: Demand slow; trend unchanged; supply adequate; $4.20@4.25 cwt., barrels.

CALCITE CRYSTALS AND FLOUR

(All prices net, sacked, including freight)

New York: Crystals $16.28, flour $10.28.
Buffalo: Crystals $17.11, flour $13.11.
Toledo: Crystals $18.96, flour $12.96.
Boston: Crystals $17.63, flour $11.63.
Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

Los Angeles: Demand fair; trend unchanged; supply adequate; flour $10.15, $8 ton cars; meal $11.15, 20 ton cars; both sacked.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $12.25, 100 lb. bags $11.50; bulk, boxcar $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CHARCOAL

San Francisco: Demand steady; supply ample; $141, sacked.

Boston: Demand slow; supply light; no quotations.

Los Angeles: Demand slow; trend unchanged; supply adequate; hardwood poultry: $156, less than ton lots; $144.40, ton lots, both sacked.

Chicago: Demand fair; trend firm; supply fair; 50 lb. multiwalls $110.

COCONUT OIL MEAL

San Francisco: Demand good; supply tight; solvent $69.50.

Seattle: Demand fair; trend easy; supply limited; $79, delivered via truck, sacked.

Los Angeles: Demand slow; trend unchanged; supply adequate; copra cake $75@76.

COD LIVER OIL (FORTIFIED)

Boston: Demand and supply steady; 300 D, 3,000 A 22¢ lb.; 600 D, 2,250 A 20½¢; 300 D, 2,250 A 20¢; 600 D, 1,500 A 19¢; 300 D, 1,500 A 18½¢.

New York: Demand fair; trend steady; supply satisfactory; 1,500 A, 300 D 16½¢ lb.; 3,000 A, 300 A 20¢ lb.

CONDENSED FISH SOLUBLES

Boston: Demand and supply steady; 8¢ lb.

Los Angeles: Demand better; trend unchanged; supply ample; 2¾¢ lb.

New Orleans: Demand light; trend easy; supply fair; $37.50@42.50, f.o.b. Gulf.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $5 more)

Minneapolis: Feed $47.80, meal $68.60.
Atlanta: Feed $51, meal $72.
Birmingham: Feed $49.60, meal $70.60.
Boston: Feed $52.50, meal $73.50.
Chicago: Feed $41, meal $62.
Cleveland: Feed $48.90, meal $69.90.
Denver: Feed $51.20, meal $72.20.
Ft. Worth: Feed $49.70, meal $70.70.
Indianapolis: Feed $46.20, meal $67.20.
Kansas City: Feed $41, meal $62.
Louisville: Feed $47.60, meal $68.60.
New Orleans: Feed $50.90, meal $71.90.
New York: Feed $53.10, meal $73.10.
Norfolk: Feed $51.50, meal $72.50.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $45.

COTTONSEED OIL MEAL

Philadelphia: Demand slow; supply fair; $70.

Ft. Worth: Demand fair; offerings sufficient except light on hulls; 41% old process $65, f.o.b. mills Ft. Worth; carlots, solvent, 2% fat added $58.50, delivered Ft. Worth, April; pellets $3 additional; hulls $20.

Boston: Demand spotty; supply light; $75.

San Francisco: Demand good; supply tight; 41% $69, 44% $74.

Memphis: Demand fair; trend steady; supply ample; prime 41% protein, old process $56, bulk; new process, 41% solvent $55, bulk.

Wichita: Demand good; supply sufficient; 41% old process $72, sacked.

St. Louis: Demand slow; trend firm; supply ample; solvent $63.

Seattle: Demand good; trend easy; supply ample; 41% expeller process $80, delivered truck loads.

Omaha: Demand slow; trend easy; supply ample; 41% solvent $63.70, bulk, delivered Omaha.

Ogden: Supply ample; 41% $70@72.

Los Angeles: Demand slow; trend unchanged; supply adequate; $71@72.

Cincinnati: Demand fair; trend steady; supply adequate; $63.

Louisville: Demand fair; trend steady; supply normal; new or old process $66, sacked.

Kansas City: Demand poor; trend weaker; supply adequate; 41% old process $55.50@56; 41% solvent process $55@55.50.

Chicago: Demand fair; trend easier; supply ample; Memphis basis, hydraulic $57.

Buffalo: Demand fair; trend lower; supply adequate; $77.70, sacked, Boston.

New Orleans: Demand slow; supply ample; trend steady; $65@65.50 bulk, $68.50@69 sacked.

CURACAO PHOSPHATE

New York: $48 sacked, $46 bulk, f.o.b. New Orleans, Jacksonville or Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9¾¢ lb.; 3,000 ICU 11¢ lb.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $66.25, sacked, 100-lb. multiwall bags, bulk $63.25; truck load $67, sacked, in 100-lb. multiwall bags, bulk $64, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $67.07, f.o.b. Tupelo in 100-lb. multiwall bags, $54.07 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $74.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $71.35, bulk.

Cincinnati: 18% phosphorus $81.02; 14% phosphorus $71.02, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Chicago: Bulk 18.5% phosphorus, carlots or trucks $32; 20,000 lb. or more $36 net ton in 100 lb. papers; less than 20,000 lb. $96, basis Chicago Heights, Ill., or Nashville, Tenn.; 21% phosphorus, carlots or trucks, bulk $94.65; 20,000 lb. or more, per net ton in 100 lb. papers, $97.65 and less than 20,000 lb., $107.65, basis Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $86 (or $4.65 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum calcium 24% $86, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 29%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $80.50, sacked, in 100 lb. multiwall bags, bulk $77.50, f.o.b. Texas City.

Trenton, Mich.: 18½% P $83, bulk, boxcar/hopper car; $86, bagged, in carloads or truck loads; $96, bagged, in less than carload lots; 21% P, $94.65, bulk, boxcar/hopper car; $97.64, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Cincinnati: 18½% phosphorus $92.15, f.o.b. Cincinnati.

DISTILLERS DRIED GRAINS

Boston: Demand good; supply short; dark $58.

Philadelphia: Demand slow; supply light; $54.

San Francisco: Demand fair; supply ample; solubles $79, sacked.

Seattle: Demand fair; trend firm; supply limited; $69, delivered truck lots, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; by truck $52.50.

Buffalo: Demand good; trend higher; supply fair to poor; $59, Boston.

Louisville: Demand fair; trend steady; supply good; bourbon grains: light $48, dark $56, solubles $73, all sacked.

DRIED BEET PULP

Milwaukee: Demand good; trend firm; supply limited; plain $59, molasses $59, both 50-lb. papers.

San Francisco: Demand good; supply fair; $42.50.

Los Angeles: Demand slow; trend unchanged; supply adequate; $47.40@48.50.

Ft. Worth: Demand fair; supply sufficient; 50 lb. papers $54, 20-day shipment, delivered Ft. Worth.

Boston: Demand good; supply light; $60, sacked.

Ogden: Supply good; $41@46.

Seattle: Demand good; trend firm; supply limited; $52, delivered carlots, sacked.

Buffalo: Demand fair; trend higher; supply poor; $59, sacked, Boston.

New Orleans: Demand fair; trend steady; supply adequate; $54@55, sacked.

DRIED BUTTERMILK

Los Angeles: Demand better; trend unchanged; supply adequate; 13¾¢ lb., sacked.

Boston: Demand good; supply short; 14¢ lb.

San Francisco: Demand fair; supply ample; 12½¢ lb., sacked.

Ogden: Supply good; $17.25 per 100 lb., bulk.

Milwaukee: Demand fair; trend firm; supply limited; $13.75 cwt.
Buffalo: Demand good; trend steady; supply limited; $12.65 cwt.
Chicago: Demand and supply fair; trend firm; medium acid $11.75@12 cwt., sweet cream $11.75@12 cwt., both sacked.
Louisville: Demand slow; trend firm; supply normal; $13@14 cwt., sacked.
New Orleans: Demand fair; trend steady; supply ample; $13@13.50 cwt., sacked.

DRIED CITRUS PULP

Boston: Demand slow; supply adequate; $54, sacked.
San Francisco: Demand and supply fair; meal $49, sacked.
Los Angeles: Demand slow; trend unchanged; supply adequate; orange pulp $40; lemon pulp $38.
Buffalo: Demand and supply fair; trend steady; $35, sacked, f.o.b. Florida points.
New Orleans: Demand fair; trend easy; supply normal; $32.50@35, f.o.b. Florida.

DRIED SKIM MILK

Ogden: Supply normal; $16.15 per 100 lb. drum.
San Francisco: Demand and supply fair; 14½¢ lb., sacked.
Boston: Demand and supply steady; 13¾¢ lb.
Cincinnati: Demand fair; trend steady; supply adequate; 13@14¢ lb., sacked.
Los Angeles: Demand fair; trend unchanged; supply adequate; 15¢ lb., less than ton lots; 14½¢ lb., ton lots, both sacked.
Philadelphia: Demand slow; supply fair; $13 cwt.
Milwaukee: Demand fair; trend firm; supply limited; $14.75 cwt.
Ogden: Supply good; $17.25 per 100 lb., bulk.
Chicago: Demand and supply fair; trend steady to easier; $11.50@12 cwt., sacked.
Minneapolis: Demand unchanged; supplies limited; slight price rise to $13.50 cwt.
Buffalo: Demand fair; trend steady; supply ample; spray $12.85 cwt.
Louisville: Demand fair; trend steady; supply ample; $13@14 cwt., sacked.
New Orleans: Demand slow; trend unchanged; supply ample; $13.50@14 cwt.

DRIED WHEY

Boston: Demand and supply steady; 5½¢ lb.
San Francisco: Demand steady; supply good; $5.75 cwt., sacked.
Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.
Ft. Worth: Demand fair; supply adequate; carlots, standard $5.75, sacked, delivered Ft. Worth; $6 ton lots, f.o.b. warehouse, Ft. Worth.
Los Angeles: Demand fair; trend weaker; supply adequate; $5.63 cwt., carloads; $5.98 cwt., l.c.l., both sacked.
Philadelphia: Demand slow; supply fair; $6.50 cwt.
Ogden: Supply good; $7, 100 lb. bag, sacked.
Wichita: Demand light; supply ample; $6.50 cwt., sacked.
Cincinnati: Demand fair; trend steady; supply adequate; $6 cwt., sacked.
Louisville: Demand fair; trend firm; supply ample; $6@6.50 cwt., sacked.
Chicago: Demand and supply fair; trend steady; $5.75@6 cwt., sacked.
Minneapolis: Demand good; supply ample; price unchanged at $5.40@5.45.
Kansas City: Demand fair; trend steady; supply adequate; regular or partially delactosed $5.25 cwt., producers' points.
New Orleans: Demand fair; trend easy; supply ample; $6@6.50 cwt.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand good; supply extremely scarce; 85-87% protein $55, sacked, f.o.b. trucks north Texas plants.
Boston: Demand good; supply tight; $80, sacked, f.o.b. shipping points.
Los Angeles: Demand slow; trend unchanged; supply adequate; $1 a unit protein, sacked.
Salisbury, Md.: Demand good; supply ample; $80, f.o.b.

FISH MEAL

Ogden: Supply good; $1.70 a unit, f.o.b. Coast; 65% $115@117.
San Francisco: Demand slow; supply ample; $1.60 a unit of protein, sacked.
Ft. Worth: Demand good; supply sufficient; sacked: 65% protein Peruvian $107; 60% menhaden $108.50, delivered Ft. Worth.
Boston: Demand and supply good; $110, sacked.
Seattle: Demand fair; trend steady; supply good; $1.65 a unit protein, delivered truck lots, sacked (Canadian production).
Milwaukee: Demand and supply fair; trend weaker; 60% $135, sacked, Chicago.
Los Angeles: Demand slow; trend weaker; supply ample; local production, 60% protein $1.50 a unit, sacked.
Omaha: Demand good; trend good; supply ample; 60% menhaden $120, f.o.b. Omaha.
Cincinnati: Demand fair; trend steady; supply adequate; $145.
Chicago: Demand fair; trend firm; supply liberal; menhaden, East Coast $103@105, Gulf $103@105; menhaden, scrap, East Coast $99@101, Gulf $99@101; Canadian herring meal, a unit of protein $1.65.
Minneapolis: No change following last week's stronger trend; Gulf menhaden $126@130, sacked, truck lots; 70% herring $1.70 a unit protein, f.o.b. West Coast; 60% blended $128 sacked, delivered Minneapolis.
Buffalo: Demand just fair; trend steady; supply ample; 60% protein, menhaden $120 bulk, $125 sacked.
Louisville: Demand dull; trend firm; supply light; $145, nominal.
New Orleans: Demand dull; trend easy; supply ample; menhaden, 60% $105@110, sacked, f.o.b. Gulf; scrap $101@106, sacked, f.o.b. Gulf.

HAY

Ogden: Supply good; $26 ton in the barn.
Philadelphia: Demand slow; supply light; $24@25.
Wichita: Demand heavy; supply very scarce; prairie $30@32, alfalfa $32@34, baled.
Ft. Worth: Demand fair for alfalfa; practically nil for others; supply sufficient; carlots, baled, No. 1 alfalfa $48@50, No. 2 $46@48; No. 2 prairie, nominal $32@34; No. 2 Johnson grass, nominal $30@32, delivered Texas common points.
Boston: Demand good; supply adequate; No. 2 timothy $40@42.
Seattle: Demand good; trend easy; supply fair; alfalfa, U.S. No. 2 green $37, delivered truck lots, baled.
Los Angeles: Demand improved; trend slightly weaker; larger offerings; U.S. No. 1 $36@37; U.S. No. 2 leafy $34.50@35.50; U.S. No. 2 green $35@36; U.S. No. 2 $33@34.
Cincinnati: Demand good; trend steady; supply scarce; No. 1 timothy $30; alfalfa-clover mixed $38; red clover $38; alfalfa, none available; wheat or oat straw $32.
Louisville: Demand better; trend steady; supply good; No. 1 hay, any variety $30@35, No. 2 $25@30; straw $18@20.

HOMINY FEED

Boston: Demand active; supply good; $53.
Memphis: Demand poor; trend steady to lower; supply ample; white $44.70, yellow $44.70.
St. Louis: Demand fair; trend steady; supply ample; yellow $44.
Milwaukee: Demand good; trend firm; supply fair; $47 sacked, $43 bulk, both Chicago.
Seattle: Demand fair; trend easy; supply limited; $47.50, delivered carlots.
Cincinnati: Demand poor; trend higher; supply adequate; $45.50.
Chicago: Demand good; trend higher; supply fair; $43.
Louisville: Demand slow; trend strong; supply normal; $51, up $1, sacked.
Kansas City: Demand fair; trend steady; supply adequate; white, yellow or mixed $36@36.50.
Buffalo: Demand fair; trend steady to higher; supply fair to poor; $54, bulk, Boston.
New Orleans: Demand fair; trend easy; supply ample; $49@50, sacked.

LINSEED OIL MEAL

Wichita: Demand fair; supply sufficient; 34% $78, sacked.
San Francisco: Demand fair; supply ample; $76.
Ft. Worth: Demand improved; supply sufficient; 34% protein solvent $72 rail.
Seattle: Demand fair; trend firm; supply limited; 31% protein (California) $93, delivered carloads, sacked.
Boston: Demand quiet; supply adequate; $86.
Philadelphia: Demand slow; trend unsettled; supply very light; 34% $72.50, nominal.
Milwaukee: Demand and supply fair; trend fair; old process $76.50, new process $67.50, both Chicago.
Los Angeles: Demand slow; trend unchanged; supply limited; local production, 31% protein $79.
Omaha: Demand slow; trend strong; supply tight; 34% solvent $61.30 bulk; 32% old process $71.30, Omaha basis.
Cincinnati: Demand poor; trend higher; supply adequate; new process $57, old process $66.50, Minneapolis.
Kansas City: Demand improved; trend firmer; supply adequate; solvent process $56@56.50; old process $65@65.50.
Minneapolis: Prices off slightly; solvent $56, expeller $65.
Chicago: Demand fair; trend firm; supply adequate; Minneapolis basis: solvent $56.50, expeller $66.50.
Louisville: Demand fair; trend steady; supply ample; old process $65, new process $74, both sacked.
New Orleans: Demand slow; supply ample; trend easy; $74.70 bulk, $79.20@79.90 sacked.

LIVER AND GLANDULAR MEAL

Omaha: Demand and trend fair; supply ample; 65% $175, sacked, Omaha.

MALT SPROUTS

Milwaukee: Demand good; trend firm; supply limited; $34 bulk; odd weights $40, even weights $41.50.
Boston: Demand and supply limited; $48, sacked.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $35.
Chicago: Demand fair; trend higher; supply light; $39.
New Orleans: Demand fair; trend easy; supply ample; $43.50@45, sacked.

MEAT AND BONE MEAL

Ogden: Supply good; 50% protein $80 ton in 100 lb. bags.
St. Louis: Demand good; supply adequate; $83.
San Francisco: Demand fair; supply ample; $1.50 a unit of protein.
Seattle: Demand good; trend steady; supply ample; 50% protein $75 sacked, ex-warehouse.
Omaha: Demand strong; supply short; trend strong; $85, bulk.
Wichita: Demand good; supply sufficient; 50% $87.50, sacked, f.o.b. plant; 55%, no quotations, no offerings.
Los Angeles: Demand steady; trend unchanged; supply adequate; 50% protein $1.65 a unit.
Ft. Worth: Demand good; supply limited; meat and bone, 50% $82@84, f.o.b. Ft. Worth.
Boston: Demand good; supply adequate; $1.30 a protein unit; converted, 50% $77.50.
Cincinnati: Demand good; supply short; trend strong; 50% meat and bone scraps $83.50, Cincinnati.
Buffalo: Demand good; trend stronger; supply ample; 50% meat scraps $82.50 bulk, $87.50 sacked.
Kansas City: Demand fair; trend strong; supply ample; 50% $82.50.
St. Paul: Supplies still tight; prices up from $82@90 to $86@92.
Louisville: Demand slow; trend firm; supply good; $85@90, sacked.
Chicago: Demand and supply fair; trend steady; 50% protein, in 100 lb. sacks, $85.
New Orleans: Demand slow; trend easy; supply ample; $85@90, sacked.

MILLFEED

Minneapolis: Price strength continues; bran and middlings at $45@46.50, sacked; red dog up another $1 to $47.
Kansas City: Demand fair; trend easy; supply ample; sacked, bran $43@43.50, shorts $43@43.50; bulk, bran $37.50@38, shorts $39.50@40, middlings $38@38.50.
Ft. Worth: Demand slow; offerings sufficient; bran $48.50, burlaps $52.50; gray shorts $49, burlaps $52.50; bulk middlings $49, delivered Texas common points; 50¢ lower on bulk bran, $1 higher on sacked bran; $1 higher on bulk shorts, $3 higher on sacked shorts and unchanged on middlings, compared with previous week.
Chicago: Demand fair; trend firm to easier; supply ample; standard bran $44.50, standard midds. $46.50, red dog $48.50.
Wichita: Demand good; supply insufficient; basis Kansas City; bran $43.75@44.25, shorts $43.75@44.25.
Omaha: Demand good; trend strong; supply tight; sacked bran $45, sacked gray shorts $45, bulk standard midds. $43, all Omaha basis.
St. Louis: Demand fair; trend easy; supply ample; sacked, bran $49, shorts $49; bulk, bran $43, middlings $44.
Memphis: Demand fair; trend lower; supply ample; wheat bran $47, gray shorts $47, standard midds. $47.
Louisville: Bran $55.10, up $2; mixed feed $55.60, up $1.50; shorts $56.60, up $2; all sacked.
Philadelphia: Demand and supply fair; trend unsettled; bran $54.50, standard midds. $55.50, red dog $57.50.
Boston: Demand steady; supply spotty; bran $56, middlings $57.
Cincinnati: Demand fair; trend higher; supply adequate; bran $51, middlings $52.
New Orleans: Demand good; trend easy; supply ample; sacked, bran $55.50@56.25, shorts $55.50@56.25; bulk, bran $52.25@53, shorts $53.25@54, middlings $53.50@54.25.
Ogden: Supply ample; to Utah and Idaho: red bran and mill run $39, middlings $44; to Denver: red bran and mill run $46, middlings $51; to California: red bran and mill run $46.50, middlings $52.50, f.o.b. San Francisco and Los Angeles.
San Francisco: Demand slow; supply ample; millfeed $44.25, red bran $49.25.
Seattle: Demand fair; trend strong; supply limited; $40, delivered common transit points, carlots.
Los Angeles: Standard mill run $49, good interest, firmer trend, small offerings; red bran $54@55, slow interest, weaker trend, adequate supplies.

MINERAL FEED

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, all-purpose mineral $55, both ex-warehouse, sacked.
Sioux City: 50 lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.
Ft. Worth: Demand fair; supply adequate; all-purpose granules $90, block $97; mineral phosphorus, 6% granules $106, block $113; cattle-sheep mineral, 7% phosphorus granules $100, block $107; hog mineral phosphorus, 3½% granules $87, phosphorus 2% $77 (all in 50 lb. paper bags).
Ogden: Supply ample; $113 ton in 50 lb. blocks; $103 ton, granular, 50 lb. bags.
San Francisco: Demand steady; supply good; all-purpose with iodine $76, sacked.
Wichita: Demand heavy; supply adequate; all-purpose with iodine 50 lb. blocks $97.50, 100 lb. bags $92.50, f.o.b. plant.

MOLASSES

St. Louis: Demand slow; trend steady; supply ample; 5¾¢ gal., tank car, New Orleans.
Memphis: Demand fair; trend steady; supply good; blackstrap 5¾¢ gal., tank car, f.o.b. New Orleans, and $24.75 ton, delivered Memphis, truck.
Milwaukee: Demand fair; supply ample;

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trend unchanged; blackstrap 9¢ gal., f.o.b. New Orleans.

San Francisco: Demand and supply good; $19.75 ton, f.o.b. cars, Richmond, Cal.

Seattle: Demand fair; trend easy; supply good; $19.75, f.o.b. Seattle, tank truck lots.

Ft. Worth: Demand good; supply sufficient; blackstrap 10¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $23.80, seller's market price on date of shipment.

Boston: Demand active; supply plentiful; 14¢ gal. in tank cars.

Los Angeles: Demand good; trend steady; supply ample; $19.50, f.o.b. tank cars; $19.75, f.o.b. tank trucks.

Cincinnati: Demand good; trend steady; supply adequate; 9¢ gal., New Orleans.

Buffalo: Demand fair; trend steady; supply good; 14¢ gal., f.o.b. Albany.

Louisville: Demand slow; trend easy; supply ample; 8¾¢ gal., tank car lots, Gulf ports.

Kansas City: Demand slow; trend steady; supply ample; blackstrap 8¾¢ gal., f.o.b. tank car, New Orleans.

Minneapolis: Steady, unchanged at $28, tank truck, delivered.

New Orleans: Demand fair; trend easy; supply good; 9@9¼¢ gal., tank cars and trucks; 600-lb. customers' drums $6.92.

NIACIN

New York: 50% $1@1.30 lb.

OAT PRODUCTS

Seattle: Demand good; trend firm; supply fair; $57, delivered, truck lots, 38 lb. or better.

Philadelphia: Pulverized white, demand slow, supply fair $52; domestic, demand slow, supply light $32; Canadian, demand slow, supply light $37, sacked, nominal.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $48.70, reground $32.20, sacked, new jutes.

Boston: Demand steady; supply irregular; white pulverized $57.50, sacked; domestic reground oat feed $36.50.

Los Angeles: Demand fair; trend unchanged; supply limited; local production, pulverized $69, sacked.

Memphis: Demand poor; trend lower; supply light; 3½% protein, reground oat feed $32.50, bulk.

Cincinnati: Demand poor; trend steady; supply adequate; no quotations.

Chicago: Demand good; trend steady to higher; supply moderate; reground oat feed $23; No. 1 fine ground fancy oatmeal $74; feeding rolled oats $78.50@79.

Minneapolis: Demand unchanged; supplies tight; feeding rolled $81, feeding oatmeal up $2 to $70; pulverized $45@46.50; reground oat feed $24@27; crimped $61, all sacked prices.

Louisville: Demand slow; trend steady; supply normal; reground $32.30, up $1; rolled oats $84.80; feeding oatmeal $80.30; crimped white oats $67.80; pulverized white oats $63.80; all sacked.

OYSTER SHELL

Los Angeles: Demand better; trend unchanged; supply ample; $16.40.

Boston: Demand and supply steady; in paper $26.

San Francisco: Demand fair; supply ample; local $15, eastern $20, sacked.

Seattle: Demand and trend steady; supply good; eastern $36, delivered carlots, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; 80 lb. bags $23.95; 50 lb. bags $24.10; 25 lb. bags $26.35.

Louisville: Demand good; trend steady; supply normal; in 80 lb. paper $23.45, in 50 lb. paper $23.70, in 25 lb. paper $25.95.

New Orleans: Demand and supply good; trend steady; $24@24.50, papers.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; trend unchanged; $45, sacked; $43, bulk; Chicago.

PEAT MOSS

Seattle: Demand and supply good; trend firm; $2.85 bale, delivered truck lots.

Boston: Demand and supply steady; $3.15 bale in carlots.

San Francisco: Demand and supply fair; $3.65 a bale.

Los Angeles: Demand good; trend unchanged; supply ample; Canadian 5.6 cu. ft. bales $3.65.

Philadelphia: Demand and supply fair; $2.99, f.o.b. pier.

Cincinnati: Demand and supply good; truck loads $3.45 baled, f.o.b. Cincinnati.

Chicago: Demand and supply firm; trend firm; standard 7½ cu. ft. bale $3.80.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixture: 250 lb. drums $1.35; 100 lb. in 100 lb. drums $1.36; 100 lb. drums $1.38; 25 lb. drums $1.41, f.o.b. Cincinnati.

Chittenango, N.Y.: Demand good; trend firm; supply ample; standard blends, 90% KI, 10% stearate or carbonate mixture, 100 lb. drums $1.32 lb.; 200 lb. and up $1.30 lb., all delivered.

POULTRY BY-PRODUCTS

Ft. Worth: Demand good; supply extremely scarce; 55% protein $92, sacked, f.o.b. north Texas plants.

Boston: Demand fair; supply tight; $71, f.o.b. shipping points.

Los Angeles: Demand excellent; trend firm; supply tight; $1.45 a unit of protein, sacked.

Salisbury, Md.: Demand excellent; supply adequate; meal $86, f.o.b.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram, in less than ton lots, in 3.36@16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

RICE BY-PRODUCTS

San Francisco: Demand good; supply ample; bran $45, polished $49, both sacked.

Ft. Worth: Demand fair; supply moderate; rice bran $30@31, f.o.b. south Texas rice mills; hulls $3.50 sacked, f.o.b. mills.

Los Angeles: Demand slow; trend unchanged; supply limited; California production, high fat content, bran $62, sacked.

SCREENINGS

Ft. Worth: Demand good; supply limited; ground mixed grain $26.50@28.50.

Cincinnati: Demand fair; trend steady; supply adequate; unground grain screenings $25.50@26.50.

Minneapolis: Some weakening in Canadian demand as buyers anticipate Great Lakes opening; Canadian off $1 to $27.50, Duluth; domestic unchanged, but trading is mostly in top of ranges; lights $13@25, mediums $24@33, heavies $34@43; flax screenings, basis 15% $48, Minneapolis.

Chicago: Demand and supply fair; trend supply light; ground grain screenings $38, nominal; Canadian $33.50.

Buffalo: Demand fair; trend steady; supply fair to poor; ground, sacked $43.50, New York; unground, bulk $36.50, New York.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

(Sacked)

Atlanta: $30.40@30.67.
Buffalo: $35.31@35.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand good; offerings moderate; No. 2 yellow milo $2.16@2.12, delivered Texas common points.

Seattle: Demand and supply good; trend firm; milo $46, delivered carlots.

Los Angeles: Demand steady; trend firmer; supply adequate; milo $2.37½ cwt.

Ogden: Supply ample; milo $42@43.

SOYBEAN OIL MEAL

Louisville: Demand fair; trend strong; supply ample; $69.20, sacked, up $3.50.

Kansas City: Demand slow; trend easy; supply ample; 44% solvent process $65.50 @66.

Chicago: Demand and supply fair; trend about steady; Decatur basis, 44% protein, unrestricted billing $57.50@58; eastern trunk line $54; 50% protein, unrestricted billing $46 and eastern trunk line $57.50.

New Orleans: Demand slow; trend easy; supply ample; $66@66.50.

Minneapolis: Demand good; supply more than adequate; price generally unchanged; 44% at $51, Decatur.

Milwaukee: Demand and supply fair; trend fair; $59, Decatur.

Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $59.50, bulk, f.o.b. Memphis.

Philadelphia: Demand and supply fair; trend unsettled; 44% $56, bulk, Decatur.

Seattle: Demand good; trend firm; supply ample; $83, delivered carlots.

Ft. Worth: Demand fair; supply sufficient; 44% $66 April, $67.50 May, $68 June; 50% protein: $74.50 April, $75.50 May-June.

Boston: Demand good; supply fair; 44% $55, 50% $59.50, both f.o.b. Decatur.

St. Louis: Demand fair; trend firm; supply ample; 44% $61.50.

San Francisco: Demand fair; supply ample; $78.40.

Los Angeles: Demand fair; trend firmer; supply adequate; $79.90.

Ogden: Supply good; 44% protein $76@77; 50% protein $81@82.

Wichita: Demand heavy; supply adequate; 44% $69, 50% $75, sacked; 44% $66, 50% $72, bulk, f.o.b. Wichita.

Omaha: Demand good; trend strong; supply tight; 44% $62.10, bulk, delivered Omaha.

Cincinnati: Demand fair; trend higher; supply adequate; $59, Decatur.

TANKAGE

St. Louis: Demand good; trend steady; supply adequate; $83.

Wichita: Demand good; supply sufficient; 60% $87.50, sacked, f.o.b. plant.

Louisville: Demand slow; trend steady; supply normal; 60% $85@90, sacked.

Kansas City: Demand fair; trend strong; supply ample; 60% digester $82.50.

Chicago: Demand fair; trend firm; supply ample; 60% protein in 100 lb. sacks $87.50.

New Orleans: Demand dull; trend steady; supply good; $89.50@90.

St. Paul: Demand good; supply tight; price up again from $83@88 to $90@92.

Ft. Worth: Demand fair; supply limited; 60% digester $87, sacked, Ft. Worth.

Omaha: Demand and trend strong; supply short; $85, bulk.

Cincinnati: Demand good; trend strong; supply fair; 60% digester $82.50, Cincinnati.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand extremely good; light offerings; 5½¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100 lb. drums $1.50; in 25 lb. drums $1.55, freight allowed to destination.

WHEAT GERM MEAL

Minneapolis: Demand good; supply tight; $56, jutes.

Buffalo: Demand fair; trend lower; supply fair to poor; commercial grade $64, sacked, f.o.b. Buffalo.

New Orleans: Demand fair; trend easy; supply ample; $64@66, cottons.

INDUSTRY

(Continued from page 1)

Dr. Carney said he had not been encouraged by trends in governmental activities. "I have seen gradually developing a philosophy of judgment by decree, rather than judgment as a result of scientific evidence," he declared.

Dr. Krider said, "All actions should be based on sound judgment, scientific fact and substantiated opinions rather than on faddism. . . . Industry should stand on its platform of performance and aggressively pursue what is proper for progress of producers of animal products and for benefit to consumers."

Dr. Krider said the feed industry endorses the apparent objective of the food additives amendment of 1958 to help protect the health of the American public, but he added, "Most progressive feed manufacturers certainly would not want to return to the type of business conducted 15 or 20 years ago which was the period preceding the development of more than 40 feed additives now used in modern feed formulas, especially if they had to compete with these modern formulas in the market place."

Greater Responsibility

Restrictions imposed by the amendment, he said, placed "greater responsibility on all involved" in research to determine not only the influence of a new chemical or drug on the rate and efficiency of production, but also for determining whether or not any is deposited in the edible tissues.

Dr. Krider continued, "The new regulations should—but to date do not—permit reasonable judgment to be exercised by well qualified scientists doing research on new compounds or reviewing research results which come under FDA scrutiny. If reasonable judgment is exercised, there would, in my opinion, still be a somewhat restricted effect on scientific research which could obviously retard agricultural progress during the years ahead."

Regarding the need for feed additive "education," Dr. Krider said the responsibility for informing people of "the importance of feed additives in the production of better animal products more efficiently and economically, as well as their safe use at the intended level," rests with all segments of industry.

"Manufacturers of feed additives must make their research information known to the proper authorities if clearance for the use of the new compound is necessary," Dr. Krider related. "After such clearance is obtained, complete instructions and educational materials will naturally be used in selling the compounds to feed manufacturers, feed dealers and animal health product distributors. This chain of educational reaction must then be carried through proper labeling and instructions to livestock and poultry producers."

Producers' Responsibility

He said it must be emphasized "over and over again" that livestock and poultry producers must carefully adhere to feeding directions, including proper withdrawal.

"Producers should be informed that feed additives and balanced feeds from scientific study are being properly used to produce healthier, more efficient and more productive animals to give them safe, nutritious foods more economically," Dr. Krider said.

On the responsibility of industry, Dr. Krider said manufacturers should be sure they understand the facts and follow closely all regulations and interpretations of old and new legislation as developed.

"Industry should continuously encourage and support scientists who conduct responsible research programs for product development and improvement and assist in practical applications of new research facts to develop improved feeds for more efficient and economical production of animal products," he said.

Dr. Carney's discussion included a "warning" of the "atmosphere that seems to be developing" relative to the cancer clause of the food additives amendment.

Emotional Reaction

"In any discussion of the food additives problem today it is extremely difficult to separate the objective appraisal from the purely emotional reaction," he said. "This is particularly true when the word cancer is mentioned. In this case even some scientists seem to lose their sense of values."

To illustrate this point he mentioned efforts made to determine a "threshold level" for chemicals—the level of use below which a drug is safe, and above which it is dangerous, and he described an example of a confusing scientific conclusion.

"Recently one of the very good people in the field of cancer research published a paper showing the effects of hydrocarbon when injected into mice at various concentrations," Dr. Carney said. Eleven different concentrations of the chemical were used on hundreds of animals. The animals were observed for their entire life span.

Results: At the two lowest concentrations no tumors appeared during the life of the animals. But at the upper nine concentrations tumors did appear. Furthermore, as the concen-

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tration increased, more tumors appeared, and in a shorter period of time.

Dr. Carney said the results indicated to him "a classical definition of a threshold level." However, the scientist did not admit a threshold level. Instead he concluded: "The reason why extremely small doses produced no cancer is not that there is a 'threshold dose' but because the necessary induction time becomes longer than the total life span."

To Dr. Carney this conclusion meant that "if man or animal lived long enough and didn't die of anything else he would die of cancer." He remarked, "I can't get very excited about a chemical that is going to cause me to get cancer 50 years after I am dead."

Stilbestrol

Dr. Carney used stilbestrol as an example of problems created by the application of the Delaney clause under the food additives amendment.

"The safety of stilbestrol in man and animals has been fully established for years. . . . Stilbestrol has added millions of dollars to the nation's economy, yet, under the Delaney amendment, this completely safe and very valuable chemical could never have been developed and introduced in animal feeds, and its many benefits to farmers and consumers would never have been realized. Even now the Delaney amendment prohibits new uses of this chemical and even prohibits extension of present uses."

To show "how far away we get from practicality when we ignore scientific evidence in favor of administrative fiat," Dr. Carney cited many scientific reports testifying to the safety of stilbestrol.

He noted that the organic arsenicals actually in use in agriculture today "have never been shown to cause cancer in animals," yet, because of their association with sodium arsenite, the entire group comes under the Delaney amendment.

"If the spirit of the cancer clause were exercised to the extreme, if we eliminated from our lives everything that caused cancer in animals, mankind would be reduced to sitting around in the dark, naked and hungry, waiting to die of cancer," Dr. Carney said.

"Inconceivable"

It is inconceivable to Dr. Carney that it should be necessary to justify the use of agricultural chemicals.

"I doubt if many people would seriously argue for removal of all chemicals from agricultural production," he said, "but I believe it would be useful to think about the dramatic impact that chemicals have had upon our farm economy and its ability to meet the needs of a rapidly growing population."

Pointing out what has already happened in research as a result of the activities of government groups in enforcing their interpretation of the Delaney amendment, Dr. Carney said that as long as there is a possibility that a useful product will be kept from the market because of "an inflexible decree," it is obvious that industry cannot take a chance on the expenditure of millions of dollars and years of research time in developing such a product.

He said Eli Lilly & Co. has halted work on projects whose products might conceivably come under the Delaney amendment or the "encompassing spirit" of the amendment. He noted also that other companies have curtailed agricultural research as a result of the uncertainty of the future of research in this field.

Dr. Carney, who headed for a Washington Delaney clause hearing as soon as he finished his talk, pointed out that it has been suggested before the House Interstate and Foreign Commerce Committee that a slight change be made in the present amendment which would allow for the inclusion of scientific judgment.

TEXAS

(Continued from page 8)

ducers Grain Corp., Amarillo; Keith L. Peck, Allied Mills, Inc., Fort Worth; Walter Blanton, Blanton Grain Co., Carrollton, and W. H. Nigh, W. H. Nigh & Co., Houston.

This convention marked the end of the first year of the merger of the Texas Feed Manufacturers Assn. and the Texas Grain & Feed Dealers Assn.

Resolution

A resolution urging the Pure Food and Drug Administration to confer with industry leaders "before invoking any new and harsh requirements through the press, with harmful results to an industry which has not been forewarned" was adopted by the convention gathering.

The resolution said the Delaney Clause to the Food Additives Amendment and its interpretation by FDA "have placed an undue and discriminatory burden on our industry."

The group also took a stand opposing any extended coverage of the Wage and Hour Law which Congress is now considering. Copies of this resolution will be sent to "interested parties of both House and Senate."

SCIENTISTS

(Continued from page 1)

And some of the witnesses recognized the need for changes in the House bill, which now contains a Delaney clause. A previously passed Senate bill on color additives does not contain a Delaney cancer clause.

Some persons said that the House committee might throw up its collective hands and defer action until the next Congress, which would mean that the pending legislation already passed by the Senate—which did not include the Delaney amendment — would die with the closing of the 86th Congress and would have to be re-introduced at the first session of the next Congress. However, it has been said that some type of color additive legislation will have to be passed at this session.

The 13 scientists on the panel which appeared before the committee came from a group named by the National Research Council. While they were asked to testify on the Delaney clause as it relates to color additive legislation, it was recognized that any testimony or action on color additives also would affect the food additives amendment now on the statute books. The food additives amendment, as the industry well knows, contains a clause specifying that no additive shall be deemed safe if it is found to induce cancer when ingested by man or animal. A similar proposal is in the House color bill.

Some of the scientists on the panel appeared to be about as hard to pin down as a greased pig in an alley on a hot day.

But a number did appear to recognize the difficulty in trying to legislate specifically in a field where there are not clear-cut answers or standards. Such a situation, it might be observed, would seem to reinforce industry and other contentions that legislation should permit the exercise of scientific judgment on safety of additives within a frame of reference, rather than specify rigid conditions that cause extremely difficult situations in practice and deny scientific progress in food production and processing.

Varying Views

There were varying views among the scientists on the subject of cancer-causing situations and the Delaney clause. In fact, some asked what the Delaney amendment meant, although several made observations on their understanding of what the Delaney clause proposes.

When confronted with a request from the scientific panel on the meaning of the Delaney legislation, the then presiding chairman of the committee declined to answer but observed that he doubted that any member of the House committee would care to go on record as to the exact meaning of the Delaney amendment.

The confusion at the hearing seemed to take two or three aspects. Some scientists connected with government agencies appeared adamant in support of the current tight ban of the Delaney amendment regarding use of so-called carcinogens and would prohibit any tolerance of any kind.

Some said they could not countenance the use of carcinogens in food, but they said it would be wrong to lay a rigid ban on the use of certain chemicals because there might come the day when the economic impact of a rigid ban would cause serious upsets to the whole economy.

Suggest Amending Clause

Some of the scientists urged that Congress amend the Delaney clause to permit responsibility on the part of the Department of Health, Education and Welfare to authorize use of so-called carcinogens if it were shown that there were no residues in end products or conditions were shown to be safe.

(In this connection, industry groups and others have urged that the Delaney clause be modified to read: ". . . additive shall be deemed unsafe . . . if the additive is found **in amounts and under conditions reasonably related to the intended use** to induce cancer when ingested by man or animal." The boldface words represent an addition to the present clause. This addition, it is said, would still protect the public but would permit scientific judgment in evaluating additives.)

One group of scientists seemed to take the position that they also were devoted to the firm protection of public health but that they wanted a change in the Delaney clause, but it was not clear as to just where they stood.

In short, it would seem that the panel, while offering various opinions, may have confused the committee to a considerable extent on this broad and difficult subject. As a result, some observers said, the committee might decide that it is now too difficult to unscramble the omelet and let the controversy ride over to another year. However, if there is no change in the food additives amendment and its Delaney clause, difficult problems and inequities for the feed industry and agriculture will continue. (At the same time, it has been said that there will have to be color additive legislation passed.)

May Be More Testimony

Meanwhile, the public display this week of scientists before the House committee may not be the finale of current discussions. As noted previously, there is a presidential committee looking into the cancer and Delaney clause problem. This group did not testify this week, but perhaps the congressmen may await the findings of this committee before doing anything further. (Also, some persons feel that the Agriculture Department eventually will have to be brought into this thing, and that Secretary Flemming may be brought back. The Secretary has gone on record as favoring the Delaney clause.)

One congressman on the committee, Rep. Paul Rogers (D., Fla.) did an effective job in questioning. He asked the scientists about the carcinogenic potential in some common products which feature, for example, League of Women Voters tea parties. Institute of Health officials agreed that components of some of these commodities, if given in large doses, might be carcinogens.

The Florida congressman persisted that there were other products used daily in most every home which, if fed in concentrated doses, would be carcinogens. The answer was one of agreement.

Rep. Rogers asked for a simple definition of a carcinogen, and the panel agreed that this could not be done. He asked about a standard of testing, and there were disagreement and indications of inability to give a standard test.

Rep. Rogers was trying to show that if the Delaney amendment were to stand its absoluteness, possibly the alternatives to the public would be either to starve to death, since few natural foods would be permitted, or die of cancer.

This reporter feels that Congress, in its oblique ways, might still send the Delaney clause at some future date into obscurity.

Meanwhile, some observers at the hearing felt that the discussions showed clearly that Congress cannot properly legislate on something where there are no standards, where not enough is known to be specific.

(Some of the scientists felt that the language in the House bill should be deleted, and a number indicated that changes are necessary.

(Also, some said that for certain things there probably should be no tolerances, but it was noted that there are tolerances for radiation carcinogenesis and that there should be no difference with regard to chemicals. Present legislation or proposals, it was sai, are too rigid to be practical.

(How can Congress legislate to provide protection, it is asked, when there is not agreement or enough knowledge on what or how protection is to be provided?

(Some still feel that there is a good chance that congressmen will recognize the need to modify the Delaney type legislation and do something about it. Thus, it is said, it is of real importance that feed men and others continue to make contacts with lawmakers, including personal contacts when they are in their home districts.)

STORAGE

(Continued from page 8)

too deeply. In fact, impartial observers say the USDA data actually would justify increases in proposed rates of grain handling charges both for truck and rail shipments.

There is no inference here, however, that the government will give in on the storage rate reductions.

It is a safe bet that, since the possibility of an increase in the USDA handling allowances for grain will affect largely the very small storage houses and also the big terminal receivers, opposition to the new USDA proposals as they otherwise stand may be accepted reluctantly when the negotiating committee meets here next month.

It is, of course, possible that USDA may bend somewhat on the terms of delivery of corn with foreign material which has been loaded into deep tanks and thus penalized by the present proposed provisions that the warehouseman load out approximately the same grade which his in-bound warehouse receipts calls for.

New Idaho Feed Mill

ROCKFORD, IDAHO — Construction is underway on a new feed mill for Modern Mills. Incorporators include Elwin Murdock, George Peterson, Arnold Dance, Lyle Peterson, Alma and J. E. Merrill and Herbert Hahn, all of Rockford, and Dean Williams of Idaho Falls.

The 24x42-foot structure will include a hammer mill and hay chopper with 24 overhead bins for mixing purposes. Adjacent will be a 40x80-foot warehouse, steel grain storage tanks for 80,000 bushels, and a 40x100-foot hay shed.

INSTITUTE

(Continued from page 1)

Drug Administration "crackdowns" was that of "proper use" of agricultural chemicals as dictated by "reasonable regulation."

Several speakers concluded that the next steps to be taken within the food industry include informing the consuming public that the food it eats is wholesome and safe and doing all that is possible to maintain this safety standard by using agricultural chemicals properly.

What to Tell Consumer

What should Mrs. Consumer be told to help straighten out the distorted view she may have of food chemicals?

Dr. Frederick N. Andrews, Purdue animal scientist, produced many of the answers to this question in a talk on "Man and the Elements—Helpful and Harmful." He pointed out that chemicals are neither all good nor all bad, and we must learn how to live with them.

He explained that all matter is composed of one or more of the 102 known elements. Many elements, Dr. Andrews noted, are extremely dangerous to living things and must be handled with care. But, on the other hand, certain amounts of some of these elements are essential to life.

Here are two of Dr. Andrews' many examples of how a natural element can be both helpful and harmful:

Man likes to play in the sun. Sunlight enables man and animal to synthesize vitamin D. Yet, he points out, persons who are forced to live in the sun fear its effects. And it has been proved that prolonged exposure to sunlight is closely related to the development of skin cancer.

Dr. Andrews noted that while the general public was being frightened by the news that cranberries might be contaminated by "a dangerous cancer-producing chemical"—aminotriazole—some of the world's thyroid specialists were calmly using it in human patients for the treatment of thyroid disorders.

To show how a chemical substance can be beneficial and essential in small amounts and highly toxic in larger amounts, Dr. Andrews noted that excessive fluorine consumption will cause abnormal bone and tooth formation in animals. However, it has been observed that when fluorine is present in the drinking water in small amounts it reduces dental caries in man.

An example of the thin line between helpful and harmful substances: In 1957 it was discovered that selenium might prevent or cure certain disorders previously attributed to vitamin E deficiency. Selenium poisoning has been known to blind and paralyze livestock.

Dr. Andrews used this example to explain that nature has lived with highly toxic chemicals for a long time.

"Arsenic is one of the oldest of insect killers and an element we have included in pure food legislation for a very long time. . . . But how many connoisseurs of seafood realize that oysters contain 5-10 ppm. of arsenic, mussels 120 ppm. and shrimp and lobster up to 170 ppm.?"

Misunderstanding

D. M. Doty, associate director, research and education, American Meat Institute Foundation, said the existence of chemical residues in foods is frequently misunderstood by "most of our population—even by many of our scientific, medical and political leaders," and it is, therefore, important that "the residue problem be defined in an objective, scientific manner, and not in the emotional atmosphere of fear induced by spectacular newspaper reports and scare books and magazine articles."

Mr. Doty said the difficulties that have led to the residue problem as it exists today may be classified as follows:

"1. Frequently, the directions for use and the dangers in the use of some of the newer insecticides, pesticides, fungicides and food additives that have not been clearly and carefully explained to the potential user. . . . The label must carry these directions, but frequently the importance of these directions is not emphasized completely or elaborated carefully.

"2. In many cases, while adequate testing methods are usually developed with the development of the material in question, these methods are sometimes not as sensitive and not as precise as we would like them to be. . . .

"3. Frequently, the material occurs in unusual situations. This may be exemplified by the fact that sweet corn which has been sprayed with an insecticide for the control of corn ear worm normally would not contain residues of the insecticide in excess of those established by the legal tolerance. . . .

"4. The legal tolerances which have been established for the residue in foods or feeds may have been completely unrealistic. This, of course, has nothing to do with the physiological tolerances, but only with the legal tolerances. From a scientific viewpoint, one should clearly differentiate these residue tolerance levels. The physiological tolerance may be quite high, but the legal tolerance, under existing laws, may be set at a very low level."

Possible Malnutrition

Relative to some of the developments which have resulted from the non-scientific, emotional attitude toward residues in food, Mr. Doty said the person who is afraid to eat certain foods because of recent "scares" might be driven into the arms of the food faddist, with the consequent malnutrition which must inevitably result from the use of a restricted, inadequate diet.

"In the long run, failure to eat wholesome, nutritious foods may ultimately lead to greater harm to our population as a whole than will the possibility of consuming small amounts of undesirable residues," he said.

Mr. Doty said also that "the unusual and unrealistic requirements that have been set up to test the safety of many food and feed additives and other agricultural chemicals have completely discouraged the technological research which is necessary to our continued national well-being."

What can be done to help solve these residue restriction problems? Mr. Doty offered these possible solutions:

"1. We must immediately embark upon a complete educational program that will cover the use of all insecticides, fungicides, food additives and other materials which may now result in food residues.

"2. Residue tolerances must be reasonable and realistic.

"3. We should expand our research in a continuing search for materials that do not leave residues in any hazardous levels in the foodstuffs with which they may come in contact.

"4. If all persons connected with the agricultural industry would approach this residue problem in an objective manner, leave out the emotionalism and avoid the scare publicity, much can be done to solve the problem of excessive residues and still maintain the public confidence in the wholesomeness and safety of our food supply."

Consumer's Concern

"The Consumer's Concern About Chemicals and Food" was the subject delegated to Hazel K. Stiebeling, director, Institute of Home Economics, USDA, who commented, "Unfortunately, to many persons the term 'chemicals' always connotes something that is poisonous or dangerous, or at best something that is 'unnatural'." She said the scientist knows that some uses of chemicals can be hazardous and consequently knows that safeguards should be erected around those used for food and agricultural purposes.

Also, Miss Stiebeling noted, scientists have learned much about the nutritional requirements of livestock and poultry for meat, milk and egg production. "Hence it has become possible to tailor feeds fairly closely to the needs of animal nutrition," she said. "Feed formulation today involves not only the skillful combining of agricultural products, including concentrates and by-products, but it may also involve wise supplementation of these products with chemicals, minerals, amino acids and vitamins.

"Scientists emphasize, however, that it is important to maintain proper proportions among the nutrients that are essential to good nutrition. Excessive amounts of some single nutrients may be as deleterious as shortages."

Miss Stiebeling believes that foods in modern markets meet most of the quality levels which consumers expect. "Chemicals have helped to make this possible," she said.

"But because custom and tradition are of little help in evaluating the many alternative items displayed in today's markets, there is need for a continuing program of information and education for consumers. Producers, processors and the food trade should devise ways of making it clear to consumers that the products on the market meet high standards of wholesomeness, nutritive value and other qualities, such as flavor, texture and appearance."

The dependence of the consumer on agricultural chemicals was emphasized by Byron T. Shaw, administrator, Agricultural Research Service, USDA. "Consumers have only two choices," he said. "They can eat wormy apples, or they can accept the use of chemicals."

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
January 30	1,104	427	666	749	117	715	1,980	2,300
February 6	1,063	422	805	787	120	822	1,925	2,261
February 13	1,091	484	805	776	106	694	1,986	2,184
February 20	1,079	416	784	802	131	742	1,987	2,024
February 27	1,059	513	657	712	152	726	1,947	2,216
March 5	1,190	466	709	770	112	727	1,934	2,158
March 12	1,172	445	723	780	105	664	1,880	2,261
March 19	1,172	475	746	796	92	721	1,738	2,385
March 26	1,206	481	872	742	126	596	1,924	2,242
April 2	1,158	493	736	750	121	535	2,074	2,139

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
January 30	1,128	500	2,823	369	6,765	172	3,280	2,420
February 6	1,114	560	2,923	396	6,799	182	3,464	2,352
February 13	1,220	470	3,074	381	7,019	183	3,365	2,482
February 20	1,334	518	3,030	450	6,789	183	3,704	2,448
February 27	1,343	457	3,174	409	6,833	219	3,834	2,281
March 5	1,161	472	3,195	382	6,798	227	3,874	2,533
March 12	1,170	385	3,131	383	6,933	223	3,758	2,334
March 19	1,124	479	3,227	365	7,167	231	3,764	2,474
March 26	1,227	521	3,230	364	7,074	227	3,977	2,434
April 2	1,078	542	3,171	354	7,002	263	3,922	2,467

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1960	1959
January 30	3,578	383	2,248	378	230	973	33,305	31,664
February 6	3,617	401	2,329	407	249	1,119	34,117	32,032
February 13	3,874	364	2,333	385	207	1,131	34,614	33,265
February 20	3,807	391	2,290	302	256	1,117	34,583	33,798
February 27	3,855	390	2,262	288	252	1,066	34,645	34,534
March 5	3,781	381	2,146	355	218	1,159	34,748	35,416
March 12	3,712	398	2,324	368	227	1,109	34,485	36,330
March 19	3,730	419	2,213	378	375	1,118	35,189	36,645
March 26	3,716	435	2,122	347	322	1,224	35,409	37,098
April 2	3,753	427	2,032	288	275	1,192	34,772	37,424

GRAIN TRADE

(Continued from page 7)

or partial surveys, have a way of developing arbitrary, capricious and unreasonable conclusions. The meeting's detailed criticism of the CSS cost study makes its averaged rate conclusions fit these descriptives. And, as a result, CSS must reevaluate, revise and substantially raise the proposed handling and storage rate levels if the professed willingness of USDA officials to be objective, open-minded and fair, is to have any meaning.

"Terms Need Revision"

"Several of the proposed agreement's terms and conditions must be reevaluated and revised by U.S. Department of Agriculture officials if they are to respect grain industry evidence of the need for revision—a need prompted in some instances by the unavailability of industry talent, industry services and industry facilities, unless the proposed terms and conditions are changed. These include restoration of limited protection to warehousemen storing corn, soybeans and grain sorghums, adequate protection if action is taken against grain under the Food, Drug and Cosmetic Act or similar regulatory laws, broader availability of the contract's premium account to offset discountable deliveries, and extension of the period during which the premium account will be available.

"Eighteen men, who represent geographically and functionally the grain industry, will meet on April 20 in Washington with USDA officials to discuss again the rates, terms and conditions of the agreement. These representatives go to this meeting with their views supported by a united grain industry. Their responsibilities are lightened by the expectation that the USDA officials with whom they will meet will negotiate objectively and fairly on the basis of the information, data and views submitted this week at the two-day town hall meeting."

VALLEY FEED STORE SOLD

LEBANON, ORE.—Mr. and Mrs. Rod Donkin recently purchased the Valley Feed and Seed store in Lebanon. Former owners are Mrs. Robert Heimerdinger and Mrs. Audrey Owens, both of Lebanon.

MARKETS

(Continued from page 2)

year. Hogs sold at Chicago up to $17 after having sagged off a bit for a few days.

By and large, all feeds are moving at about the same general rate, with no one of the various types doing appreciably better than any of the others.

South Central

Formula feed business has been fairly good, but not quite up to the level of the preceding week. Most plants are maintaining five day runs, but some have been forced to cut back on production. Principal lag seems to be in cattle feeds, resulting from last week's clean-up drive on winter bookings.

Feed manufacturers report a continuing good movement of hog and pig feeds, with these items accounting for a big share of their runs. Only limited improvement was noted in chick feed sales, some complaining that volume is below the same period of a year ago.

Floods are very much in the news, with nearly 100,000 acres of crop land in Illinois and Missouri under water. Other than a minor interference with transportation services, flood waters have not as yet affected feed mills in this area.

Ohio Valley

Unsettled weather conditions in the Ohio Valley during the last week have created considerable uncertainty about plowing and planting activities during the period immediately ahead. While the rainfall has not been sufficient to increase flood conditions along the Ohio River, very little spring plowing and planting have been possible to date.

As a result it is now expected that there will be a definite shortage of summer meadow crops. This shortage well could be increased considerably if a spell of hot, dry weather during the next week or so hardens the present soaked soil to make plowing, planting and seed germination more difficult. But a week of suitable weather might brighten this situation considerably.

Meanwhile, area feed manufacturers are not prepared to estimate the effect of possible crop shortages this year on sales of formula feeds. Although there has been a definite improvement in business this month, manufacturers say it has not yet been sufficient to bring sales to the volume recorded a year earlier.

Pacific Northwest

Oregon, Washington and Idaho formula feed business this week was considered good by most mixers in the face of further expansion in consumption of feed by poultry flocks. Cattle and dairy feed sales appeared to be tapering off on a seasonal basis, but trade sources indicated that large poultry feed sales took up the slack.

Feedstuffs trading was moderately active despite spring-like weather, and feed prices were steady to firmer. Buying interest ranged from a hand-to-mouth pattern on some items to an active anticipation of forward requirements on others.

Supplies of certain feed ingredients and whole feeding grains continued on the tight side with daily offerings limited. This situation provided additional support to general market conditions.

Alfalfa hay trading was seasonally slower during the week, and prices at Seattle and Portland appeared unchanged to $1 a ton lower. Good quality alfalfa comparable to U.S. No. 2 green quoted mostly at these two cities for $37@39 ton, baled, delivered.

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Oilseed Meal Futures Show Minor Changes

MEMPHIS, TENN.—Oilseed meal futures showed only a few fractional gains and losses on the Memphis Board of Trade the past week.

Good nearby demand for cash soybean oil meal reportedly influenced the board for the May contract to a premium over forward months. A week ago May was at a discount.

Cottonseed oil meal showed no change in futures prices, although business was good in the cash article part of the period. Cold weather during March necessitated further supplies for mixed feeds, since the late spring forced farmers to feed more heavily than ever.

Nearby cottonseed oil meal brought a premium over forward shipments. Traders said demand was good because pastures are not ready yet.

The purchase of soybean oil meal by exporters, mainly Spain which bought about 16,000 tons of 44% soybean oil meal for May and June delivery, boosted the cash market and futures board part of the period.

Memphis basis soybean oil meal closed April 5 unchanged to 25¢ ton higher; unrestricted soybean oil meal 40@60¢ lower, and bulk solvent cottonseed oil meal unchanged.

Turnover for the period amounted to 4,800 tons of unrestricted soybean oil meal.

Egg Marketing Co-op Proposed in Florida

TAMPA, FLA.—Poultrymen from eight Florida counties will meet here April 12 to discuss the creation of a cooperative egg marketing organization.

"Egg production methods, efficiency and techniques have advanced rapidly," says T. P. Browder, president of Hillsborough County Poultry Assn., "and marketing has not kept pace. This failure is a contributing factor to the depressing market conditions of the past year."

The Hillsborough and adjacent counties area is the state's largest egg production area. There are several cooperatives existing now, but most marketing is done independently.

"The need for a marketing organization is pointed up by increasing egg competition from Georgia areas. These producers are marketing great volumes of eggs in Florida," says Mr. Browder.

Undergoes Surgery

BLANCHESTER, OHIO — Mrs. Miriam J. Ferneau, president of the Ferneau Grain Co., entered Christ Hospital in Cincinnati April 1 for repair surgery to a hip seriously injured in an automobile accident several months ago. She is expected to be hospitalized for about two to three weeks. Mrs. Ferneau, a specialist in distillers and brewers dried grains in the feed industry, was injured Sept. 26 while returning from her son's wedding in Urbana, Ohio. At that time, she was taken to Clinton Memorial Hospital, Wilmington, Ohio, where she spent three months. Since the first of the year, she has been convalescing at Blanchester getting ready for the installation of an artificial hip joint.

Cincinnati Club to Meet

CINCINNATI — Members of the Cincinnati Feed Club will conduct a business meeting April 11 following dinner and an entertainment program at the Cincinnati Club.

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